

TM 9-1440-250-24P-6-2

TECHNICAL MANUAL

**ORGANIZATIONAL, DIRECT SUPPORT AND
GENERAL SUPPORT MAINTENANCE
REPAIR PARTS AND SPECIAL TOOLS LIST
(INCLUDING DÉPOT MAINTENANCE
REPAIR PARTS AND SPECIAL TOOLS)**

CHARLES E. STUBBS

**ILLUSTRATION SUPPLEMENT
RAIL, LAUNCHING-HANDLING
GUIDED MISSILE, M3A1
1450-00-474-0717**

**IMPROVED NIKE-HERCULES AIR DEFENSE
GUIDED MISSILE SYSTEM**

CHARLES E. STUBBS

DEPARTMENT OF THE ARMY

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TECHNICAL MANUAL

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HEADQUARTERS,
DEPARTMENT OF THE ARMY
Washington, D. C., 29 January 1984

Organizational, Direct Support, and General Support Maintenance

Repair Parts and Special Tools List

(Including Depot Maintenance Repair Parts and Special Tools)

ILLUSTRATION SUPPLEMENT

FOR

RAIL, LAUNCHING-HANDLING

GUIDED MISSILE, M3A1

1450-00-474-0717

(IMPROVED NIKE-HERCULES AIR DEFENSE GUIDED MISSILE SYSTEM)

Current as of 2 November 1983

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in back of this manual direct to: Commander, U. S. Army Missile Command, ATTN: DRSMI-SNPS, Redstone Arsenal, AL 35898. A reply will be furnished to you.

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*This manual supersedes TM 9-1440-250-24P-6-2, dated 4 August 1980.

Section I. INTRODUCTION

1. Scope.

This manual depicts illustrations that will aid in the identification of authorized spares and repair parts; special tools, special test, measurement and diagnostic equipment (TMDE), and other support equipment, required for performance of organizational, direct support and general support maintenance of the Rail, M3A1.

2. General.

This Repair Parts and Special Tools List Illustration Supplement is divided into the following sections:

a. Section II. Illustrations, Assembly Parts Breakdown. This section is divided as follows:

(1) Assembly Parts Breakdown List. This list is furnished to aid in locating components, assemblies, and subassemblies and indicates by indenture the generation breakdown level of the item.

(2) Cross-Reference Numerical List. This list is furnished as an aid in locating items by part number that appear on the assembly parts breakdown list.

b. Section III. Illustrations. A series of exploded views of assemblies and subassemblies arranged in figure number sequence. All exploded parts are identified with callout numbers placed in clockwise sequence. The first illustration will depict the end item followed by an exploded view illustration or series of illustrations of the major assembly prior to the breakdown of its subassemblies. The subassemblies are then illustrated in the order that they appeared and were indexed on the major assembly.

c. Section IV. Numerical Index. A list, in alphanumeric sequence, of all part numbers appearing in the illustration legends. Part numbers are cross-referenced to each illustration figure and item number appearance. This index is furnished as an aid in locating items in this supplement, and authorized items in the Repair Parts and Special Tools List.

3. Special Information.

a. Repair Parts and Special Tools List. The listing of authorized repair parts for the equipment contained in this illustration supplement are located in TM 9-1440-250-24P-6-1, Repair Parts and Special Tools List. Items that appear on the illustrations, but which are not listed in the Repair Parts and Special Tools List, are not authorized repair parts. In such cases, or where differences exist between information found in this Supplement and the Repair Parts and Special Tools List, the information found in the Repair Parts and Special Tools List manual will prevail for requisitioning purposes.

b. Quantity Per Illustrated Application. The quantity per illustrated application will be shown in the legend to the right of the referenced number. The asterisk (*) shown on the illustration legend denotes "as required."

c. Wiring Harnesses. Wiring harnesses that require a separate illustration(s) for component identification, or cable assemblies and test leads composed of common type components, have been assigned a control number and the component parts are identified at the end of Section III. The assembled items are identified at their first appearance and refer to an illustration for details. The referenced illustration depicts all components of the wiring harnesses, cable assemblies, or test leads. Following the referenced illustration is an application page(s) listing the components and quantities per each wiring harness, cable assembly, or test lead.

4. How to Locate Repair Parts.

a. When National stock number or part number is unknown:

(1) First. Using the table of contents, find the Illustrations, Assembly Parts Breakdown.

(2) Second. Using the Illustrations, Assembly Parts Breakdown, determine the assembly within which the repair part belongs.

(3) Third. Find the illustration covering the assembly to which the repair part belongs.

(4) Fourth. Identify the repair part on the illustration and note the part number of the repair part.

(5) Fifth. Refer to paragraph 3.a. above to determine the applicable TM where authorized repair parts are depicted. This is necessary since compatible repair parts and special tools for this supplement are shown in a separate Repair Parts and Special Tools List manual.

(6) Sixth. Using the Index of National Stock Numbers and Part Numbers of the Repair Parts and Special Tools List, find the pertinent part number of item noted on the illustration. This index is in National item identification number (NIIN) sequence followed by a list of part numbers in alphanumeric sequence, cross-referenced to the index numbers shown in the illustration figure and item number column.

(7) Seventh. After finding the index number in the figure and item number column of the Repair Parts and Special Tools List, locate the index number in the repair parts list.

b. When National stock number or part number is known:

(1) First. Refer to paragraph 3.a. above to determine the applicable TM where authorized repair parts are depicted. This is necessary since compatible repair parts and special tools for this supplement are shown in a separate Repair Parts and Special Tools List manual.

(2) Second. Using the Index of National Stock Numbers and Part Numbers of the Repair Parts and Special Tools List, find the pertinent National Stock Number or part number. This index is in NIIN sequence followed by a list of part numbers in alphameric sequence, cross-referenced to the index numbers shown in the illustration figure and item number column.

(3) Third. After finding the index number in the figure and item number column of the NSN or Part Number Index of the Repair Parts & Special Tools List, locate the index number in the repair parts list.

SECTION II.

ILLUSTRATIONS, ASSEMBLY PARTS BREAKDOWN

1. Assembly Parts Breakdown List

Note: The use of dots indicates generation breakdown.

Illustration Title	Figure No.
RAIL, LAUNCHING-HANDLING, GUIDED MISSILE, M3A1 /9027441/	1
..RELEASE ASSEMBLY, LAUNCHING RAIL /9032212/-----	10
..BREAKAWAY ASSEMBLY, LAUNCHING RAIL /8525300/-----	11
..ELECTRICAL INSTALLATION, LAUNCHING RAIL /8167172/-----	12
...CABLE ASSEMBLY SWITCH /8167414/-----	16
...CABLE ASSEMBLY SWITCH /8167414/-----	17
...CABLE ASSEMBLY /13060170/-----	18
...CABLE ASSEMBLY /8167527/-----	19
....SWITCH SUBASSEMBLY /8527134/-----	20
....HOUSING, SENSITIVE SWITCH /15605-49-3161/-----	21
..BELL ASSEMBLY, ELECTRICAL INSTALLATION /8527036 AND 8527037/-----	22
..CABLE ASSEMBLY, POWER, ELECTRICAL /11067500 AND 11067544/-----	23
...CONNECTOR, PLUG, ELECTRICAL /8526871/	24
...CONNECTOR, PLUG, ELECTRICAL ASSEMBLY /11067515/-----	25
..RELAY ASSEMBLY, BLOWER /8521464/-----	26
..TERMINAL BOARD /8525120 AND 8525121/	27

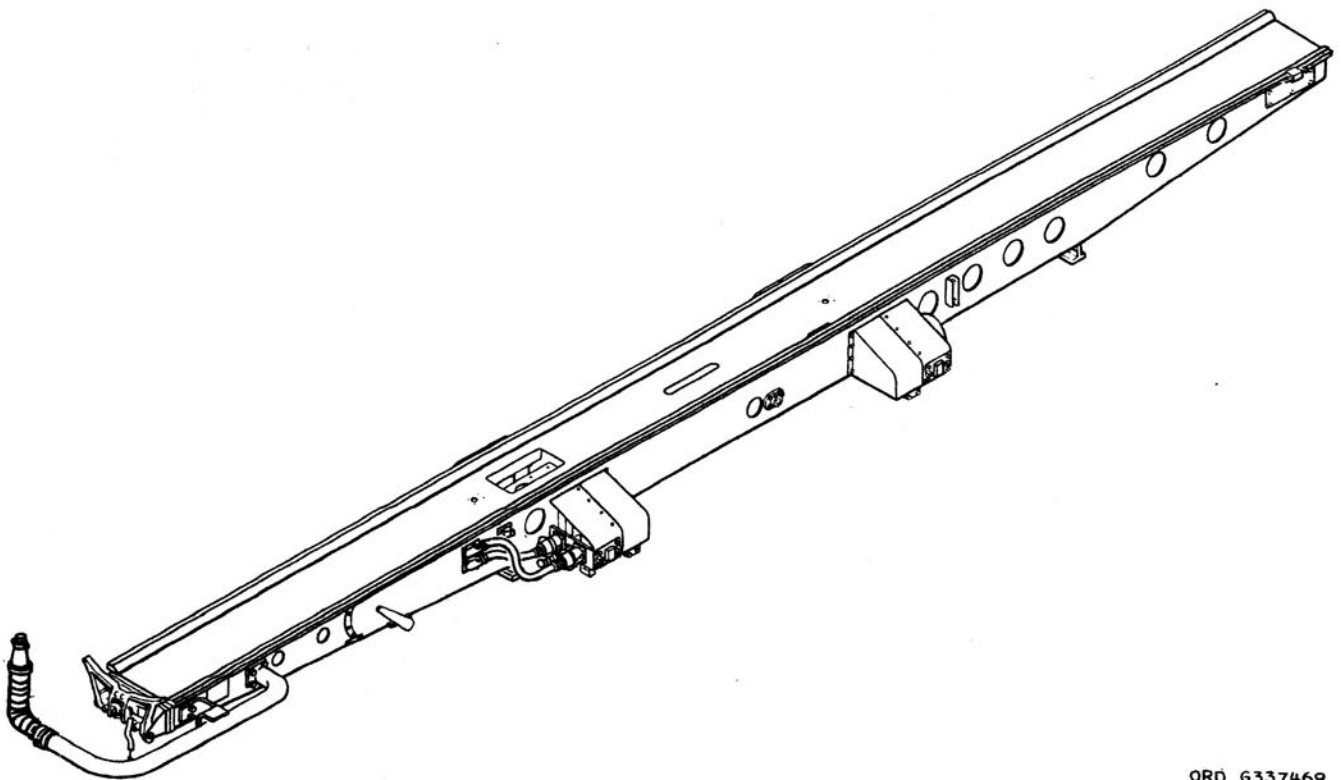
Illustration Title	Figure No.
..WHEEL ASSEMBLY /8167416/-----	28
..WHEEL ASSEMBLY /8167435/-----	29
..CYLINDER ASSEMBLY, ACTUATING, LINEAR /8521441 AND 8521453/-	30
..BRAKE, LAUNCHING RAIL /8525285/-----	32

2. Cross-Reference Numerical List

Reference No.	Assembly	Figure No.
11067500	CABLE ASSEMBLY, POWER, ELECTRICAL CONNECTOR, PLUG, ELECTRICAL ASSEMBLY	23
11067515	CABLE ASSEMBLY, POWER, ELECTRICAL ASSEMBLY	25
11067544	CABLE ASSEMBLY, POWER, ELECTRICAL ASSEMBLY	23
13060170	CABLE ASSEMBLY HOUSING, SENSITIVE SWITCH	18
49-3161	ELECTRICAL INSTALLATION, LAUNCHING RAIL	21
8167172	CABLE ASSEMBLY SWITCH	12
8167414	WHEEL ASSEMBLY	16
8167416	WHEEL ASSEMBLY	28
8167435	WHEEL ASSEMBLY	29
8167527	CABLE ASSEMBLY	19

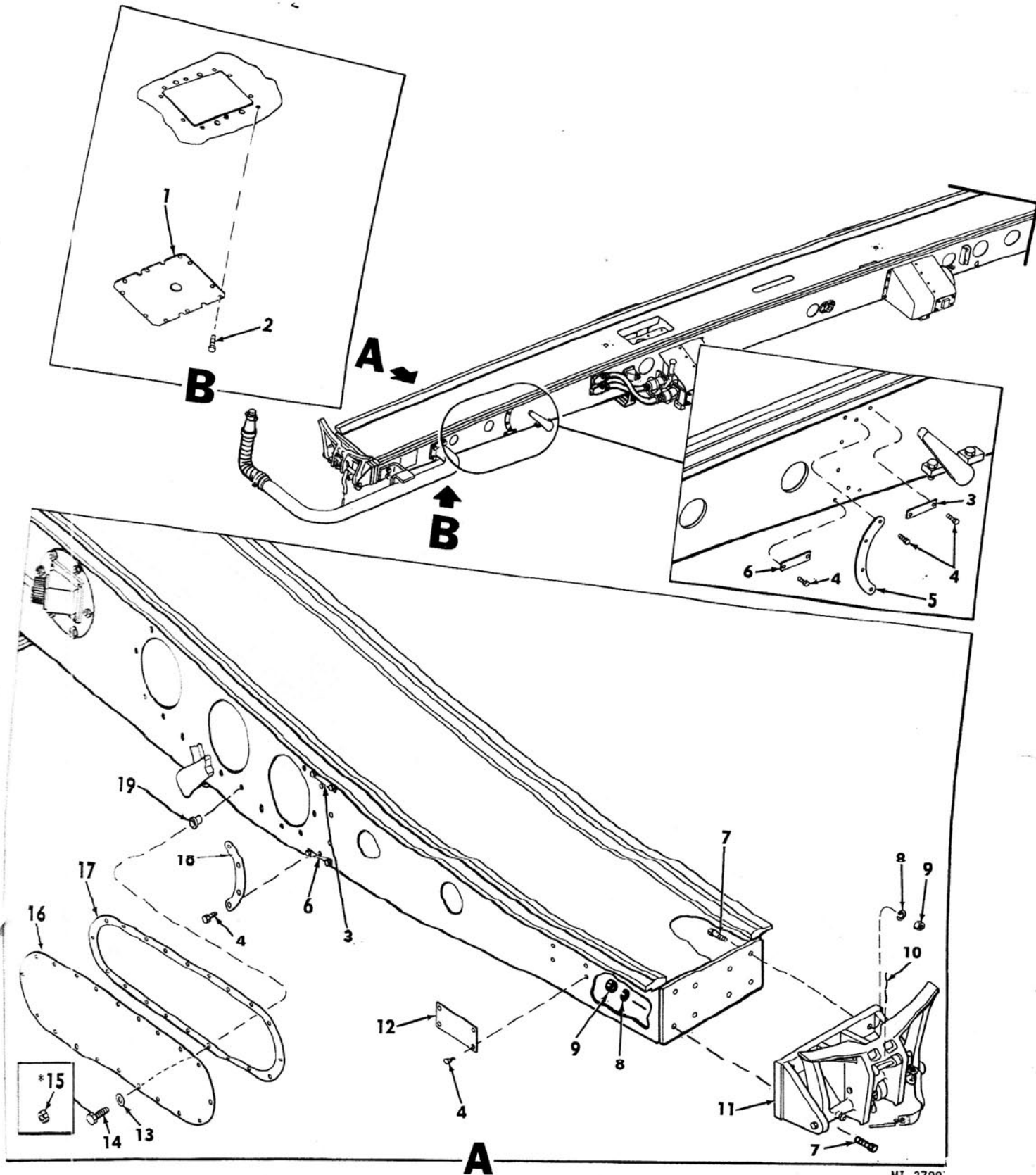
Reference No.	Assembly	Figure No.	Reference No.	Assembly	Figure No.
8521441	CYLINDER ASSEMBLY, ACTUATING, LINEAR	30	8527036	BELL ASSEMBLY, ELECTRICAL INSTALLATION	22
8521453	CYLINDER ASSEMBLY, ACTUATING, LINEAR	30	8527037	BELL ASSEMBLY, ELECTRICAL INSTALLATION	22
8521464	RELAY ASSEMBLY, BLOWER	26	8527134	SWITCH SUBASSEMBLY	20
8525120	TERMINAL BOARD	27	9027441	RAIL, LAUNCHING- HANDLING, GUIDED MISSILE, M3A1	1
8525121	TERMINAL BOARD	27	9032212	RELEASE ASSEMBLY, LAUNCHING RAIL	10
8525285	BRAKE, LAUNCHING RAIL	32			
8525300	BREAKAWAY ASSEMBLY, LAUNCHING RAIL	11			
8526871	CONNECTOR, PLUG, ELECTRICAL	24			

SECTION III. ILLUSTRATIONS



ORD 6337469

FIGURE 1. RAIL, LAUNCHING-HANDLING, GUIDED MISSILE, M3A1 /9027441/



MI 3788

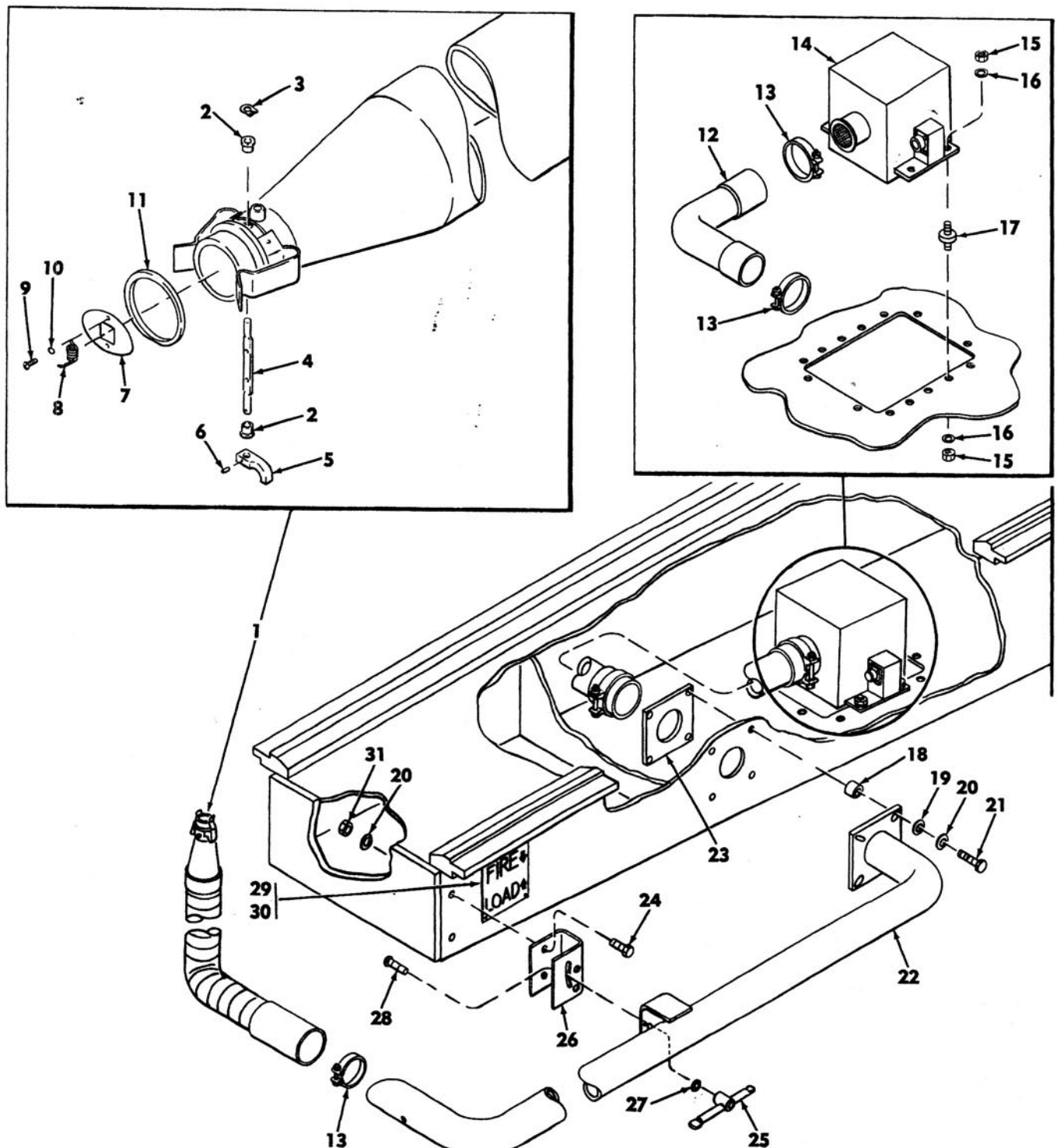
1 COVER 9034320.....1
 2 SCREW MS90726-8.....10
 3 PLATE 8167506.....2
 4 SCREW MS24629-20.....20
 5 PLATE 8167018.....1
 6 PLATE 8167019.....2
 7 BOLT MS20074-10-23.....8
 8 WASHER MS35338-50.....8

9 NUT MS51967-20.....8
 10 WIRE QQW390CONDITIONA.....*
 11 RELEASE ASSEMBLY 9032212.....1
 SEE FIGURE 10 FOR DETAILS
 12 PLATE 9153488.....1
 13 WASHER MS27183-10.....20
 14 SCREW MS90726-8.....20
 15 NUT MS51922-1.....20

16 COVER 8167812.....1
 17 GASKET 9017737.....1
 18 PLATE 8167617.....1
 19 NUT 11067517.....36

* USED WITH HANDLING RAIL
 HAVING STUDS

FIGURE 2. RAIL, LAUNCHING-HANDLING, GUIDED MISSILE, M3A1 /9027441/



1	HOSE ASSEMBLY 9979094.....1	12	HOSE 9025044.....1	23	PLATE 9977598.....1
2	BUSHING 9978401.....2	13	CLAMP MS21920-26R.....3	24	BOLT MS90726-59.....2
3	RING 8428228.....1	14	BLOWER 9031878.....1	25	WING NUT 9977597.....1
4	PIN 9978399.....1	15	NUT MS51967-2.....6	26	BRACKET 9977596.....1
5	ARM 9978397.....1	16	WASHER MS35338-44.....8	27	WASHER MS27183-18.....1
6	PIN NAS561-2-3.....1	17	MOUNT 9025043.....4	28	BOLT MS35751-123.....1
7	VALVE 9978398.....1	18	SPACER NAS43HT6-13.....4	29	PLATE 9977602.....1
8	SPRING 9978400.....1	19	WASHER MS63040-6.....4	30	SCREW MS24629-20.....4
9	SCREW AN520-0-2.....2	20	WASHER MS35338-46.....6	31	NUT MS51968-8.....2
10	WASHER 8428229.....2	21	BOLT MS90726-60.....4		
11	GASKET 9029795.....1	22	PIPE 9977579.....1		

ORD 6337471

FIGURE 3. RAIL, LAUNCHING-HANDLING, GUIDED MISSILE, M3A1 /9027441/

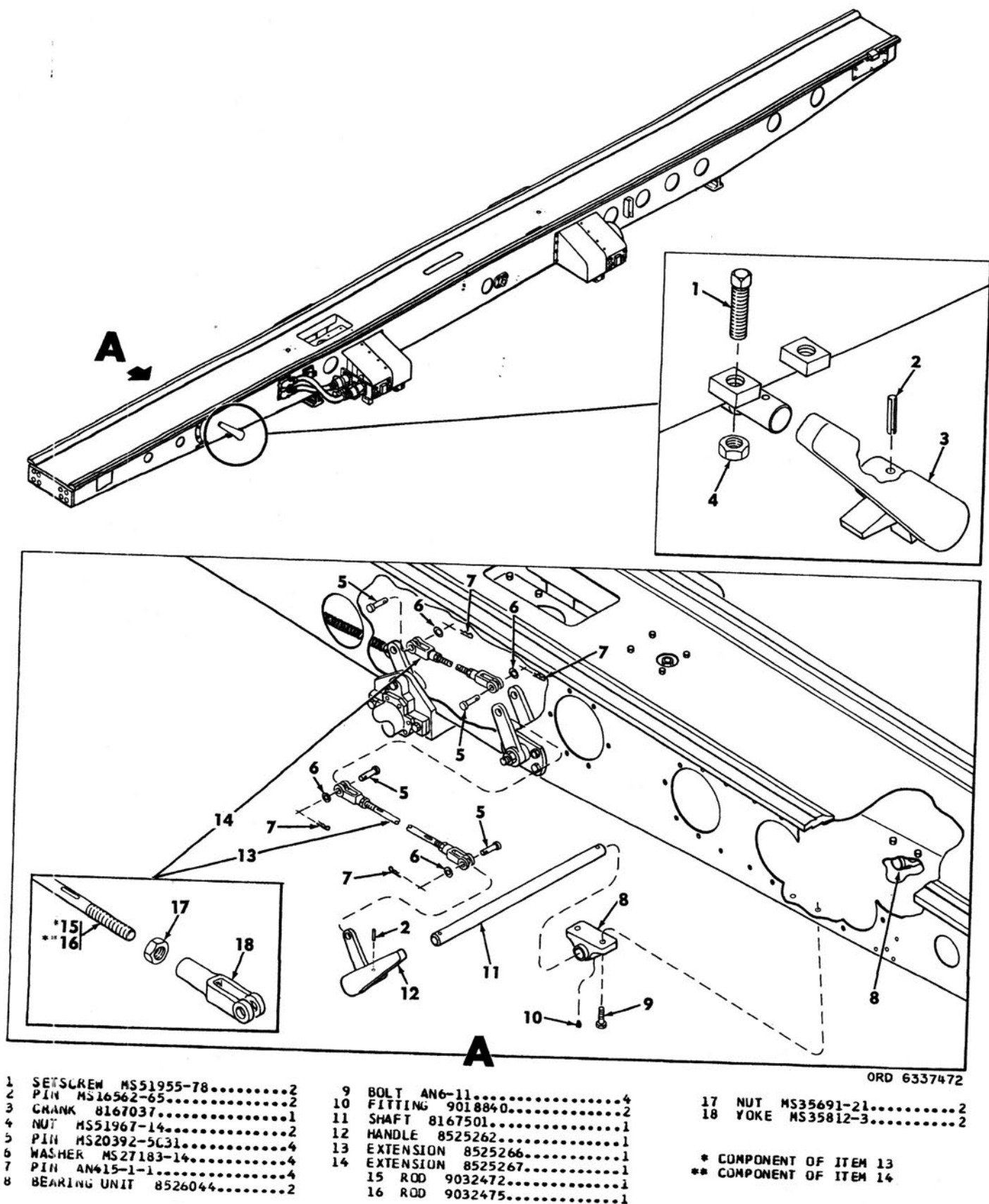
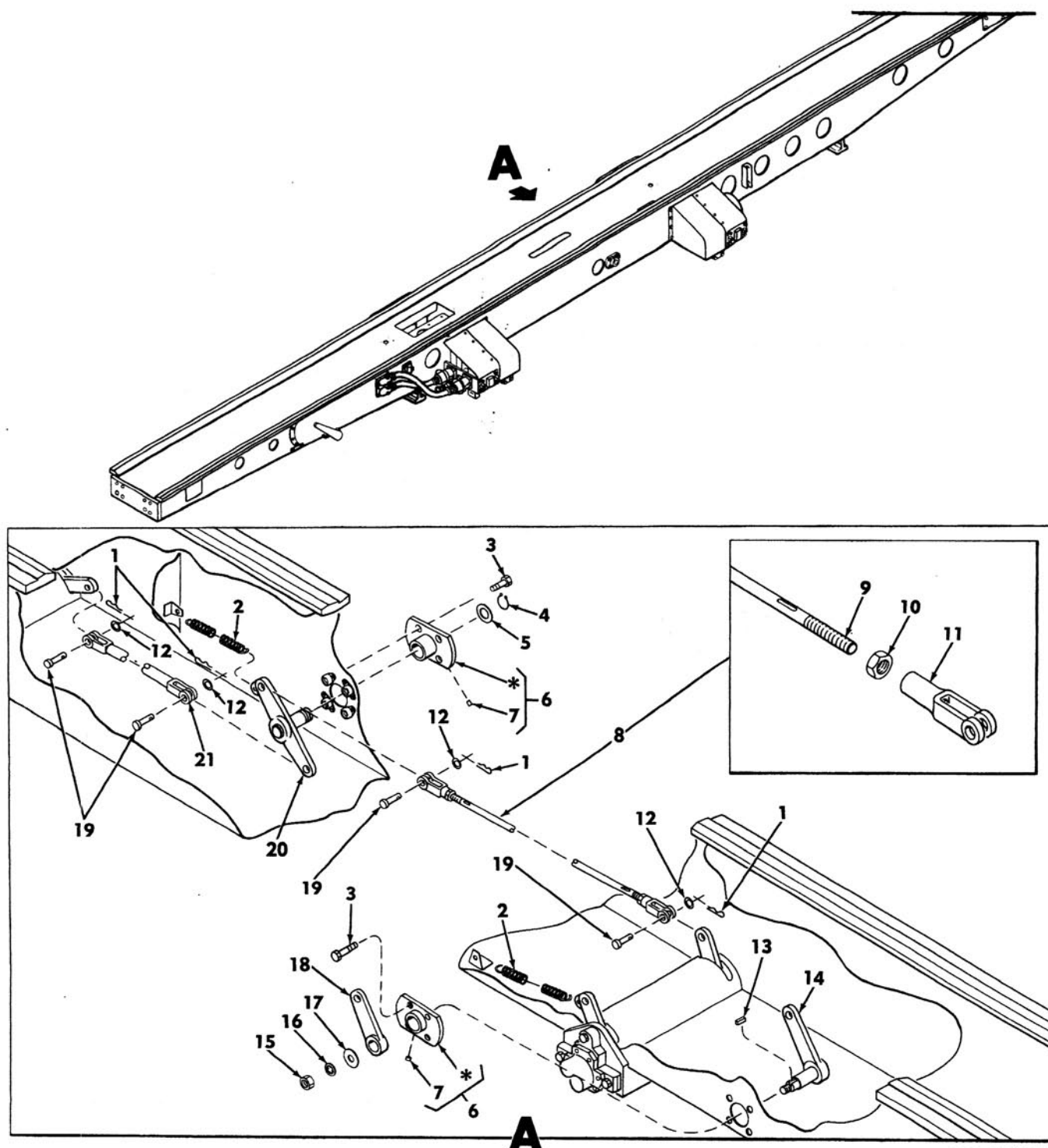


FIGURE 4. RAIL, LAUNCHING-HANDLING, GUIDED MISSILE, M3A1 /9027441/



ORD 6337473

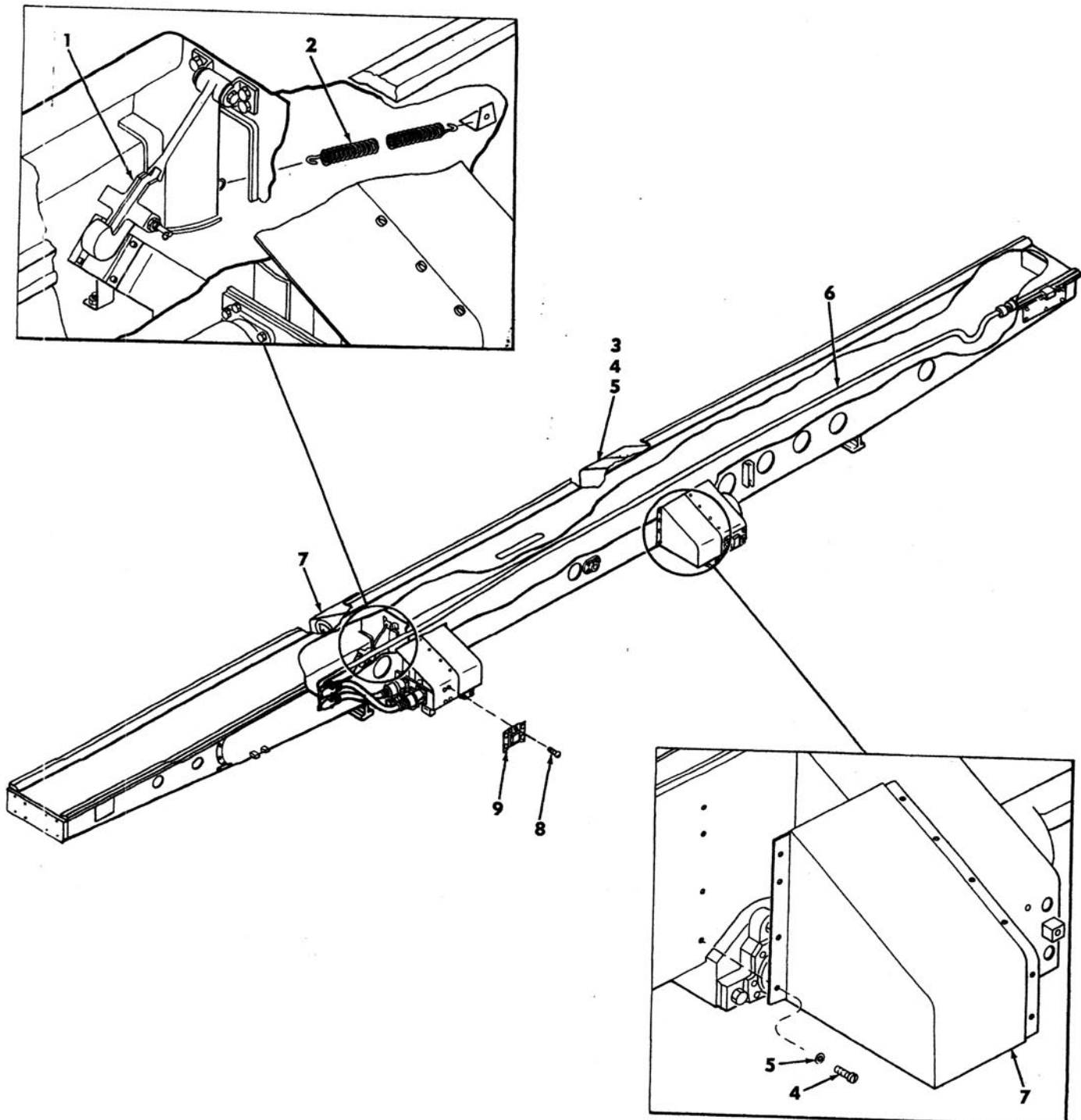
1 PIN AN415-1-1.....4
2 SPRING 8525274.....2
3 SCREW MS90728-61.....8
4 RING MS10024-1087.....1
5 WASHER MS27183-25.....1
6 BEARING 0167497.....2
7 FITTING 9018040.....1
8 EXTENSION SHAFT ASSEMBLY
8525268.....1

9 ROD 8522121.....1
10 NUT MS35691-21.....2
11 CLEVIS MS35812-4.....2
12 WASHER MS27183-14.....4
13 KEY MS20067-118.....1
14 LEVER ARM ASSEMBLY
9032471.....1
15 NUT MS35691-17.....1
16 WASHER MS35333-42.....1

17 WASHER MS63040-6.....1
18 ARM 8525276.....1
19 PIN MS20392-5C31.....4
20 LEVER ASSEMBLY 8525265.....1
21 CONNECTOR 8525269.....1

* COMPONENT OF ITEM 6

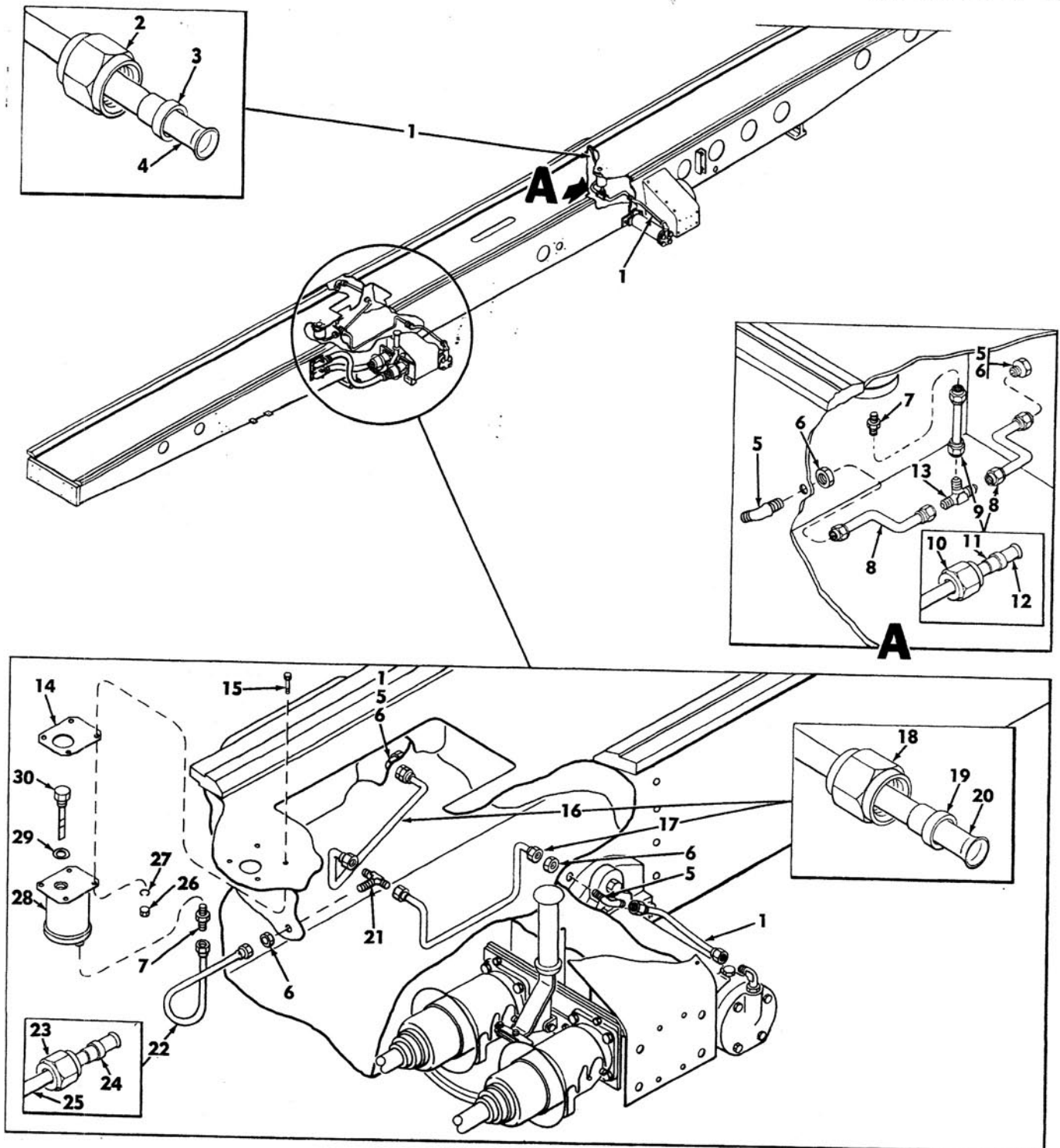
FIGURE 5. RAIL, LAUNCHING-HANDLING, GUIDED MISSILE, M3A1 /9027441/



ORD 6337474

1	BREAKAWAY ASSEMBLY 8525300.....1 SEE FIGURE 11 FOR DETAILS	4	SCREW MS35206-260.....40	7	GUARD 8525289.....2
2	SPRING 8525274.....1	5	WASHER MS35333-39.....28	8	SCREW MS35190-270.....16
3	GUARD 8525288.....2	6	ELECTRICAL INSTALLATION 8167172.....1 SEE FIGURE 12 FOR DETAILS	9	BUMPER 8167495.....4

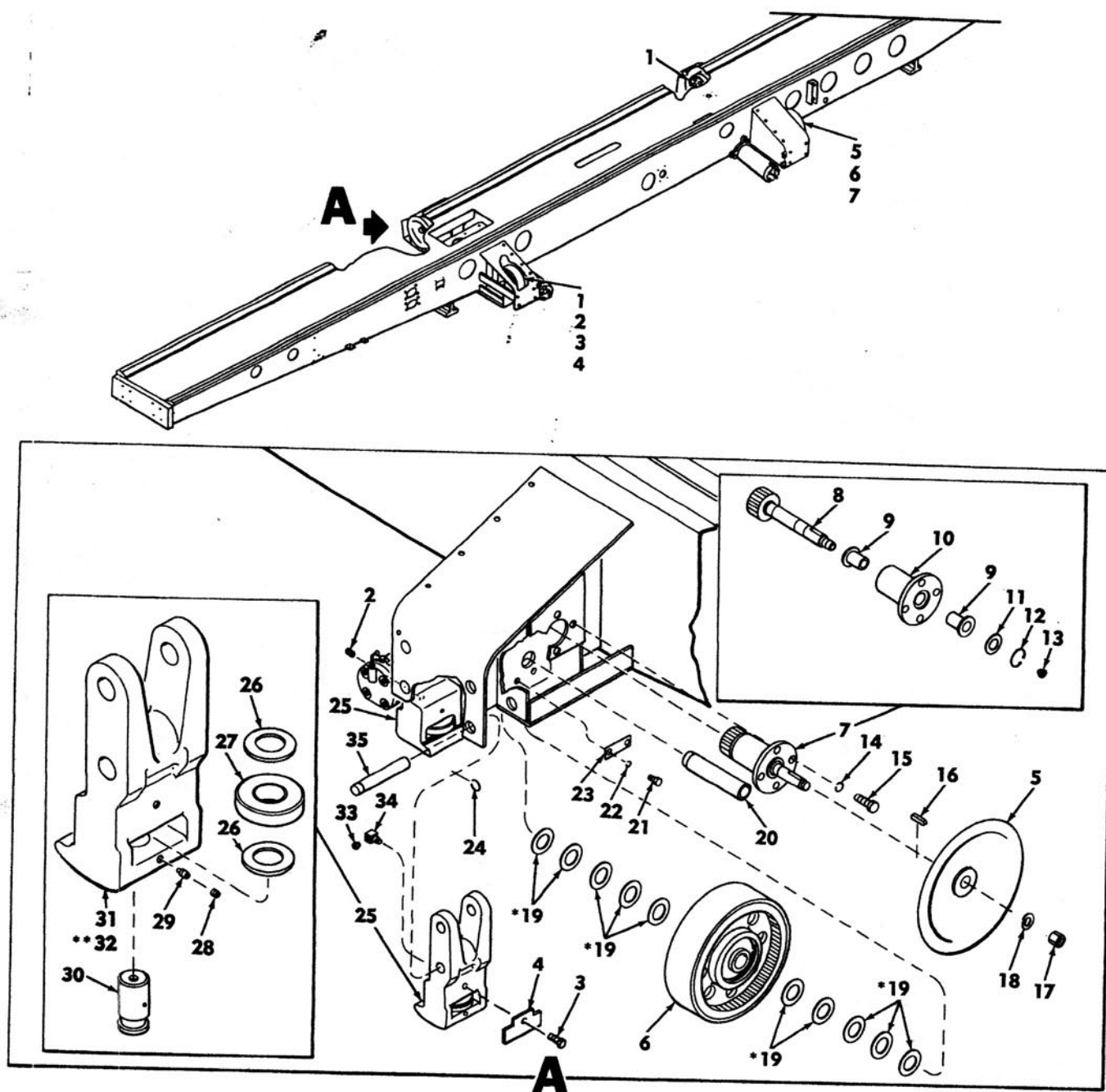
FIGURE 6. RAIL, LAUNCHING-HANDLING, GUIDED MISSILE, M3A1 /9027441/



ORD 6337475

1	TUBE ASSEMBLY 8525234.....4	11	SLEEVE MS20819-4.....2	21	TEE MS24395J4.....1
2	NUT AN818-4C.....2	12	TUBING MILT6845.....*	22	TUBE ASSEMBLY 8525277.....1
3	SLEEVE MS20819-4J.....2	13	TEE AN824-4C.....1	23	NUT AN818-4.....2
4	TUBING MILT6845.....*	14	GASKET 8525279.....2	24	SLEEVE MS20819-4.....2
5	ELBOW AN833-C4.....4	15	SCREW MS90725-7.....8	25	TUBING MILT6845.....*
6	NUT AN924-4J.....5	16	TUBE ASSEMBLY 9029931.....1	26	NUT MS51967-2.....8
7	ADAPTER AN816-4-4C.....2	17	TUBE ASSEMBLY 9029934.....1	27	WASHER MS35338-44.....8
8	TUBE ASSEMBLY 8525233.....2	18	NUT AN818-4C.....2	28	RESERVOIR 8525238.....2
9	TUBE ASSEMBLY 8525235.....1	19	SLEEVE MS20819-4J.....2	29	GASKET MS35769-9.....2
10	NUT AN818-4.....2	20	TUBING MILT6845.....*	30	GAGE ROD 8525236.....2

FIGURE 7. RAIL, LAUNCHING-HANDLING, GUIDED MISSILE, M3A1 /9027441/

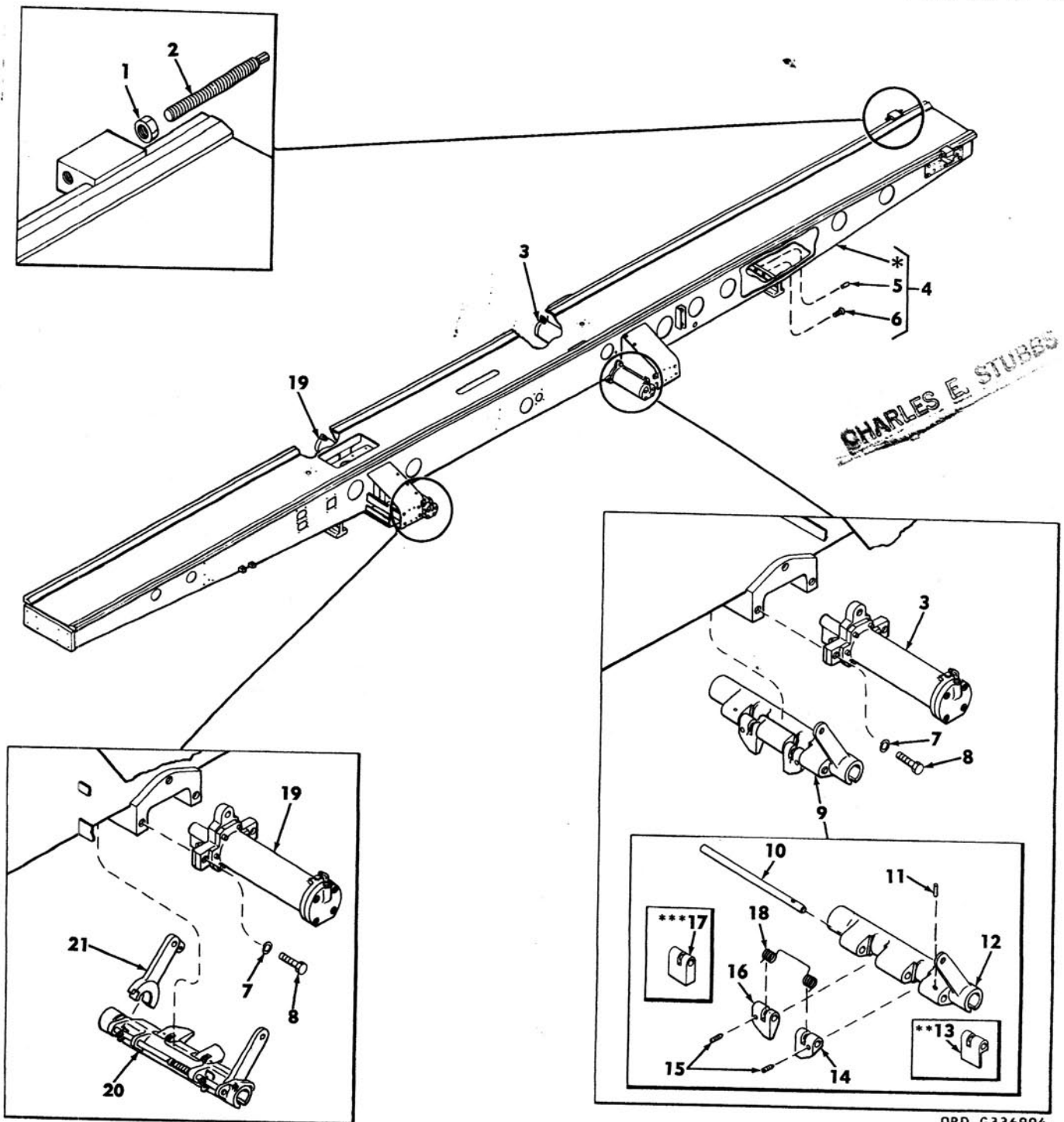


MI 37882

1	WHEEL ASSEMBLY 8167416.....2	14	WASHER MS35338-46.....8	28	SETSCREW MS51964-63.....1
	SEE FIGURE 28 FOR DETAILS	15	SCREW MS18154-60.....8	29	SETSCREW MS51976-46.....1
2	SETSCREW MS51026-62.....6	16	KEY MS20068-122.....2	30	PIN 8525257.....1
3	SCREW MS24668-11.....2	17	NUT MS51968-14.....2	31	HOOK 8525258.....1
4	SHIM 9977153.....2	18	WASHER MS35338-48.....2	32	HOOK 11067546.....1
5	HANDWHEEL 8167452.....2	19	WASHER AN960C1616L.....40	33	FITTING 9018840.....8
6	WHEEL ASSEMBLY 8167435.....2	20	PIN 8167418.....4	34	CONNECTOR 9151469.....8
	SEE FIGURE 29 FOR DETAILS	21	SCREW MS90725-3.....8	35	PIN 8525255.....16
7	HOUSING ASSEMBLY 8167621.....2	22	WASHER MS35338-44.....8		
8	GEARSHAFT 8167422.....1	23	HOLDER 8167445.....4		
9	BEARING 8528934.....2	24	RING MS16626-1059.....16		
10	SLEEVE 9029768.....1	25	STABILIZING HOOK ASSEMBLY 8525259.....8		
11	WASHER AN960-1216L.....1	26	WASHER 8167026.....2		
12	RING MS16626-1068.....1	27	ROLLER 8167019.....1		
13	FITTING 9151329.....1				

* QUANTITY USED DETERMINED
UPON ASSEMBLY
** ALTERNATE FOR ITEM 31

FIGURE 8. RAIL, LAUNCHING-HANDLING, GUIDED MISSILE, M3A1 /9027441/



ORD G336994

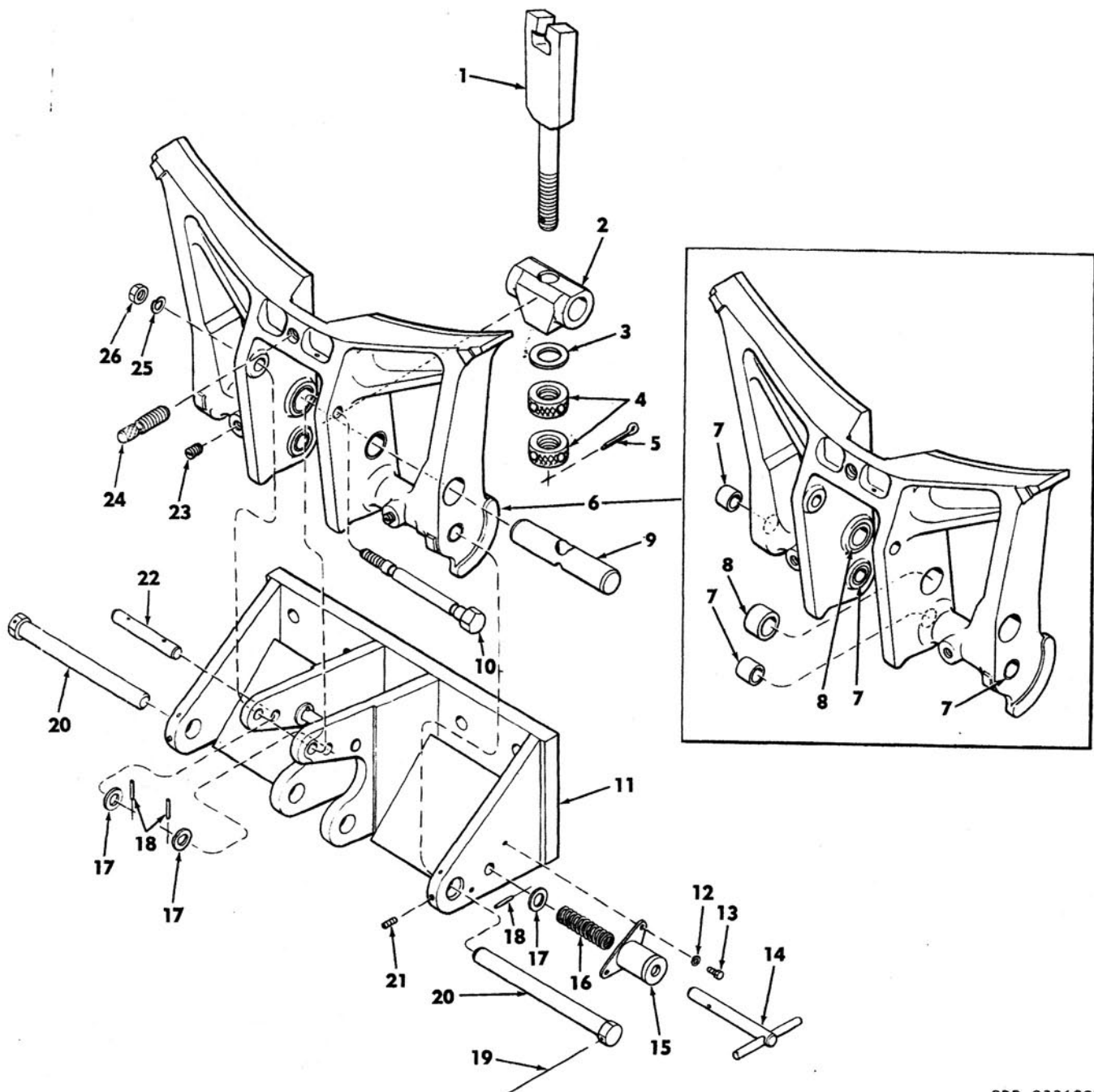
- 1 NUT MS35691-61.....2
- 2 BOLT 8521899.....2
- 3 CYLINDER ASSEMBLY 8521453.....2
- SEE FIGURE 30 FOR DETAILS
- 4 BODY ASSEMBLY 9019000.....1
- 5 PIN MS16555-60.....2
- 6 SCREW MS35190-243.....2
- 7 WASHER MS35338-50.....12
- 8 SCREW MS90725-164.....12
- 9 TUBE ASSEMBLY 8525286.....1
- 10 PIN 9031260.....1

- 11 PIN MS16562-50.....1
- 12 TUBE 8525284.....1
- 13 LATCH 11067553.....1
- 14 LATCH 8525250.....1
- 15 SETSCREW 9151244.....2
- 16 LATCH 8525251.....1
- 17 LATCH 11067554.....1
- 18 SPRING 9031249.....1
- 19 CYLINDER ASSEMBLY 8521441.....2
- SEE FIGURE 30 FOR DETAILS

- 20 BRAKE 8525285.....1
- SEE FIGURE 32 FOR DETAILS
- 21 RING 8525287.....1

* COMPONENT OF ITEM 4
 ** ALTERNANT FOR ITEM 14
 *** ALTERNANT FOR ITEM 16

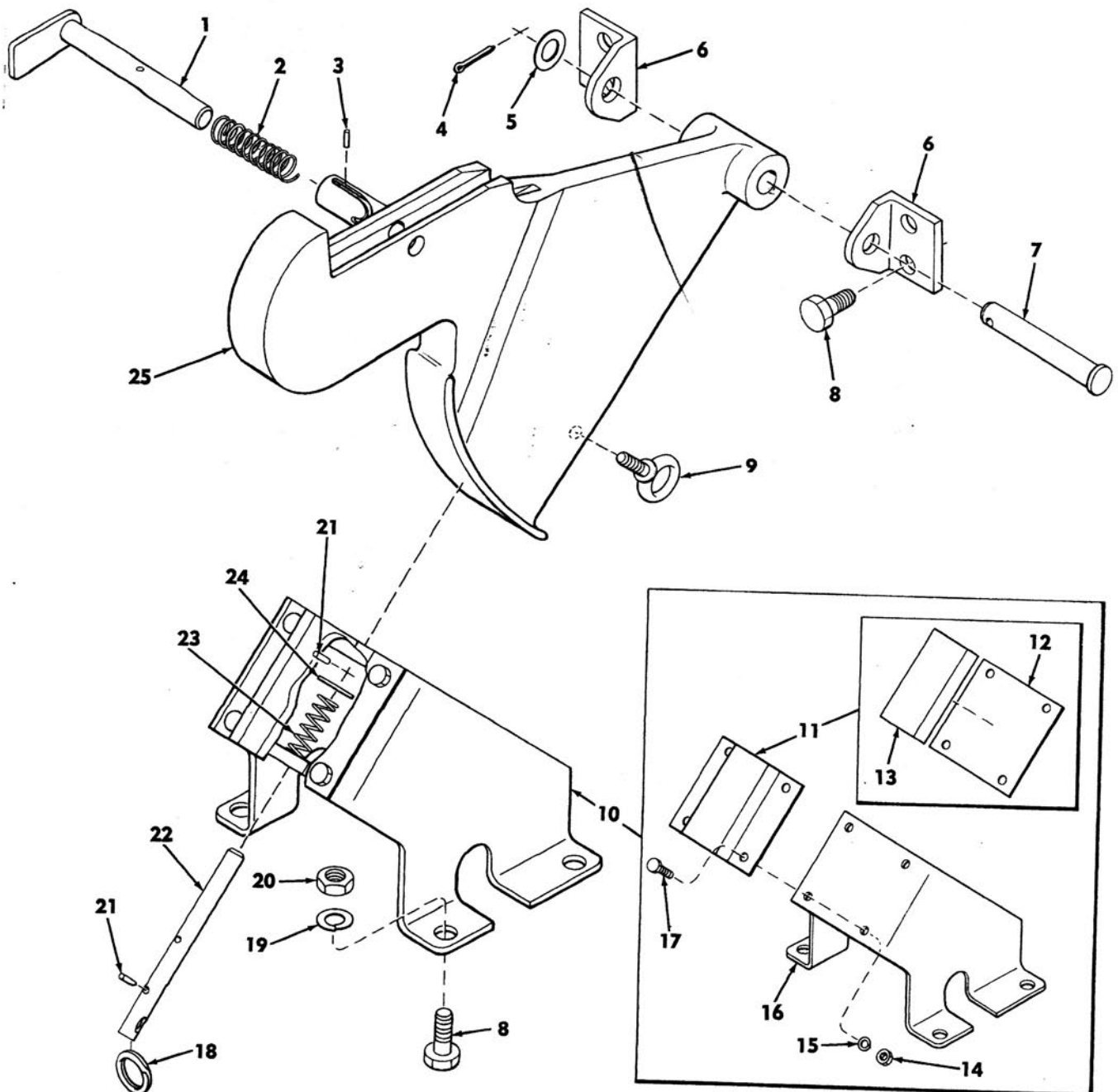
FIGURE 9. RAIL, LAUNCHING-HANDLING, GUIDED MISSILE M3A1 /9027441/



ORD G336995

1	HOLDER 9020383.....1	10	BOLT 8521882.....1	19	WIRE QQW390CONDITIONA.....*
2	COUPLING 9020401.....1	11	BRACKET ASSEMBLY 9032134.....1	20	PIN 8428269.....2
3	WASHER MS27183-23.....1	12	WASHER MS35338-44.....2	21	SETSCREW MS51963-68.....2
4	NUT 9020398.....2	13	SCREW MS90725-3.....2	22	PIN 9020381.....2
5	PIN MS24665-15.....1	14	PIN 8524377.....1	23	FITTING 9018840.....2
6	YDKE ASSEMBLY 9032143.....1	15	HOUSING 8524384.....1	24	THUMBSCREW 9151815.....1
7	BUSHING 8524385.....4	16	SPRING 8165440.....1	25	WASHER MS35338-141.....1
8	BUSHING 9151643.....2	17	WASHER MS20002-8.....5	26	NUT MS35691-23.....1
9	PIN 9020397.....1	18	PIN MS16562-36.....5		

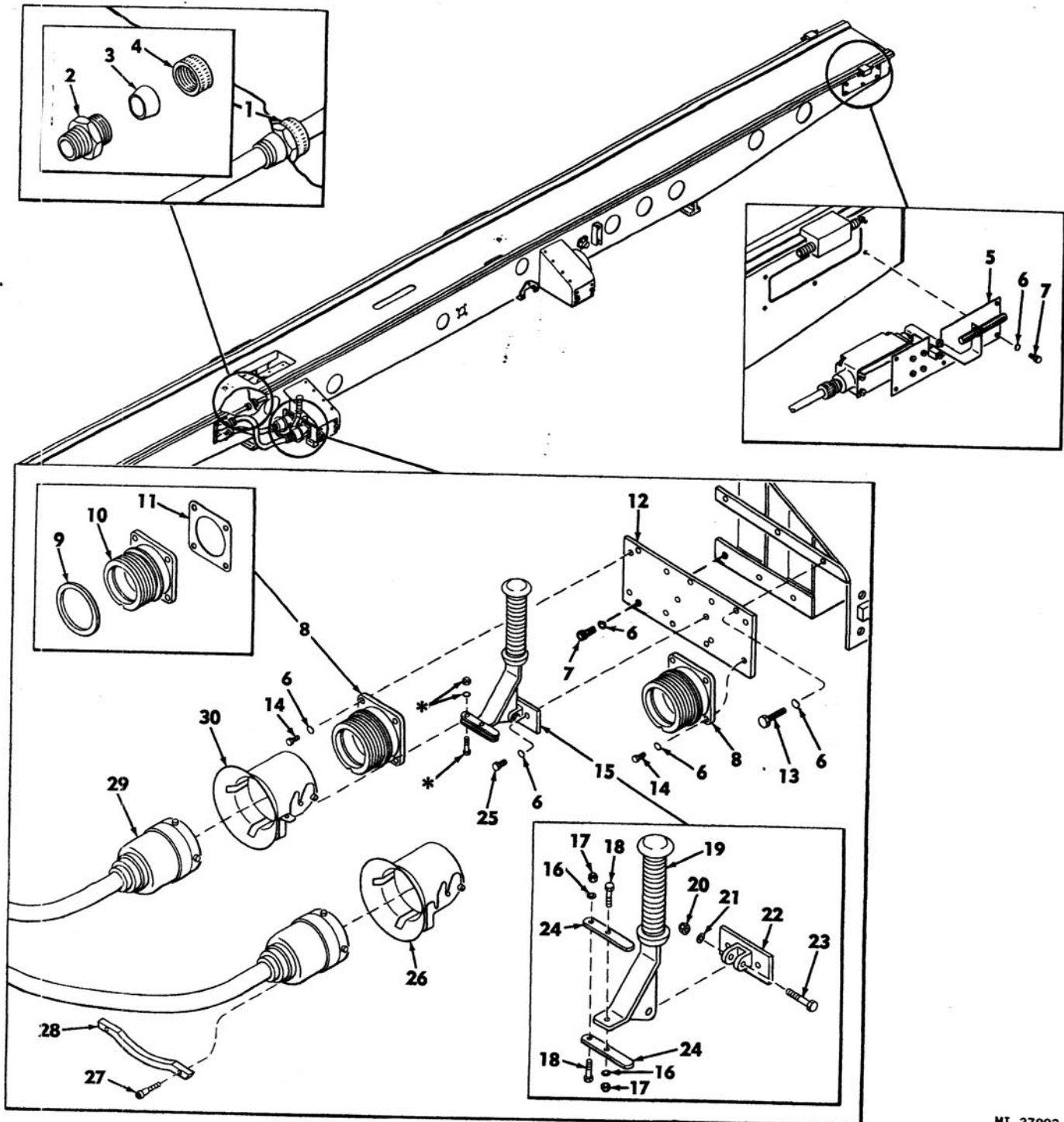
FIGURE 10. RELEASE ASSEMBLY, LAUNCHING RAIL /9032212/
/SEE FIGURE 2 FOR NEXT HIGHER ASSEMBLY/



ORD 6336996

1	PIN ASSEMBLY 9019300.....1	10	STOP BRACKET ASSEMBLY 8525318.....1	18	HOLDER 11067518.....1
2	SPRING 9019275.....1	11	BUMPER 8524940.....1	19	WASHER MS35338-46.....4
3	PIN MS16562-34.....1	12	PLATE 8524940-1.....1	20	NUT MS51968-8.....4
4	PIN MS24665-302.....1	13	PAD 8524940-2.....1	21	PIN MS16562-33.....2
5	WASHER MS27183-18.....1	14	NUT MS35650-302.....4	22	PIN 8525321.....1
6	BRACKET 8525317.....2	15	WASHER MS35338-43.....4	23	SPRING 8523497.....1
7	PIN MS20392-7C95.....1	16	BRACKET 8524942.....1	24	WASHER AN960C616L.....1
8	BOLT MS90726-60.....8	17	BOLT AN3-3A.....4	25	PIVOT ASSEMBLY 11067504.....1
9	BOLT 8526915.....1				

FIGURE 11. BREAKAWAY ASSEMBLY, LAUNCHING RAIL /8525300/
/SEE FIGURE 6 FOR NEXT HIGHER ASSEMBLY/



MI 37883

1 BOX CONNECTOR 9111745.....1	11 GASKET 5183447.....1	24 PLATE 9977164.....2
2 BODY 15235-4316A.....1	12 PLATE 8167585.....1	25 SCREW MS90725-3.....2
3 BUSHING 15235-05.....1	13 SCREW MS90725-6.....1	26 BELL ASSEMBLY 8527037.....1
4 NUT 15235-94.....1	14 SCREW MS90725-5.....8	SEE FIGURE 22 FOR DETAILS
5 CABLE ASSEMBLY SWITCH	15 LEVER ASSEMBLY 9022333.....1	27 SCREW 8031098.....2
8167414.....1	16 WASHER AN960-10.....2	28 LINK ROD 8528769.....1
SEE FIGURES 16 OR 17	17 NUT MS21044N3.....2	29 CABLE ASSEMBLY 11067500.....1
FOR DETAILS	18 BOLT AN3-7A.....2	SEE FIGURE 23 FOR DETAILS
6 WASHER MS35338-44.....21	19 LEVER 9977069.....1	30 BELL ASSEMBLY 8527036.....1
7 SCREW MS90725-8.....10	20 NUT MS21044N4.....1	SEE FIGURE 22 FOR DETAILS
8 SHELL ASSEMBLY 8526092.....2	21 WASHER AN960-416.....1	
9 GASKET 5183448.....1	22 CLEVIS 9977163.....1	
10 SHELL 5578538.....1	23 BOLT AN4-11A.....1	

* COMPONENT OF ITEM 15

FIGURE 12. ELECTRICAL INSTALLATION, LAUNCHING RAIL /8167172/
/SEE FIGURE 6 FOR NEXT HIGHER ASSEMBLY/

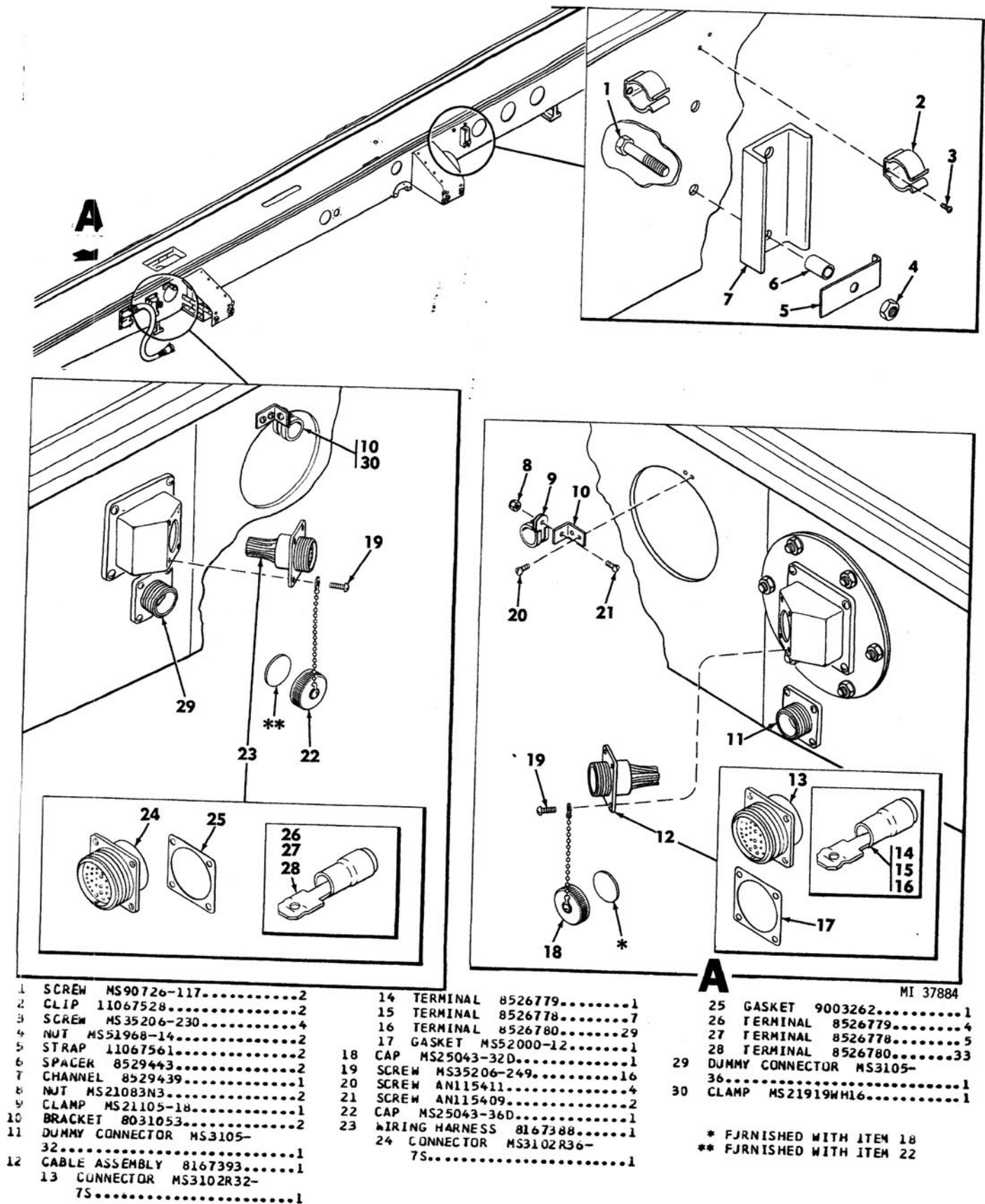
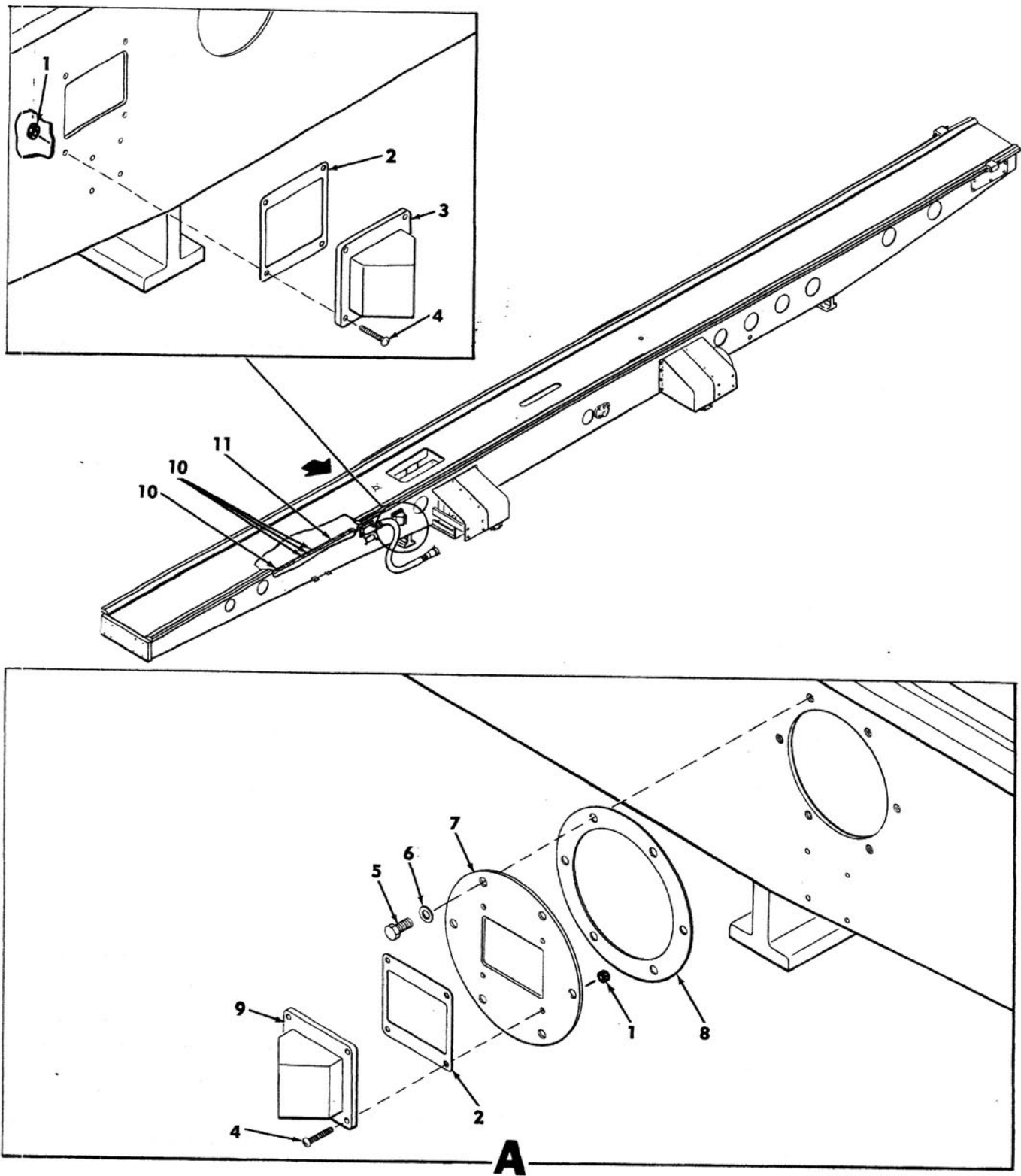


FIGURE 13. ELECTRICAL INSTALLATION, LAUNCHING RAIL /8167172/



MI 37885

1	NUT	MS21044N08.....	8	5	SCREW	MS90726-8.....	6	9	COVER	8428200.....	1
2	GASKET	8428202.....	2	6	WASHER	MS27183-10.....	6	10	STRAP	MS17821-1-9.....	4
3	COVER	8428201.....	1	7	PLATE ASSEMBLY	9152160.....	1	11	STRAP	MS17821-2-2.....	6
4	SCREW	MS90725-8.....	8	8	GASKET	9017736.....	1				

FIGURE 14. ELECTRICAL INSTALLATION, LAUNCHING RAIL /8167172/

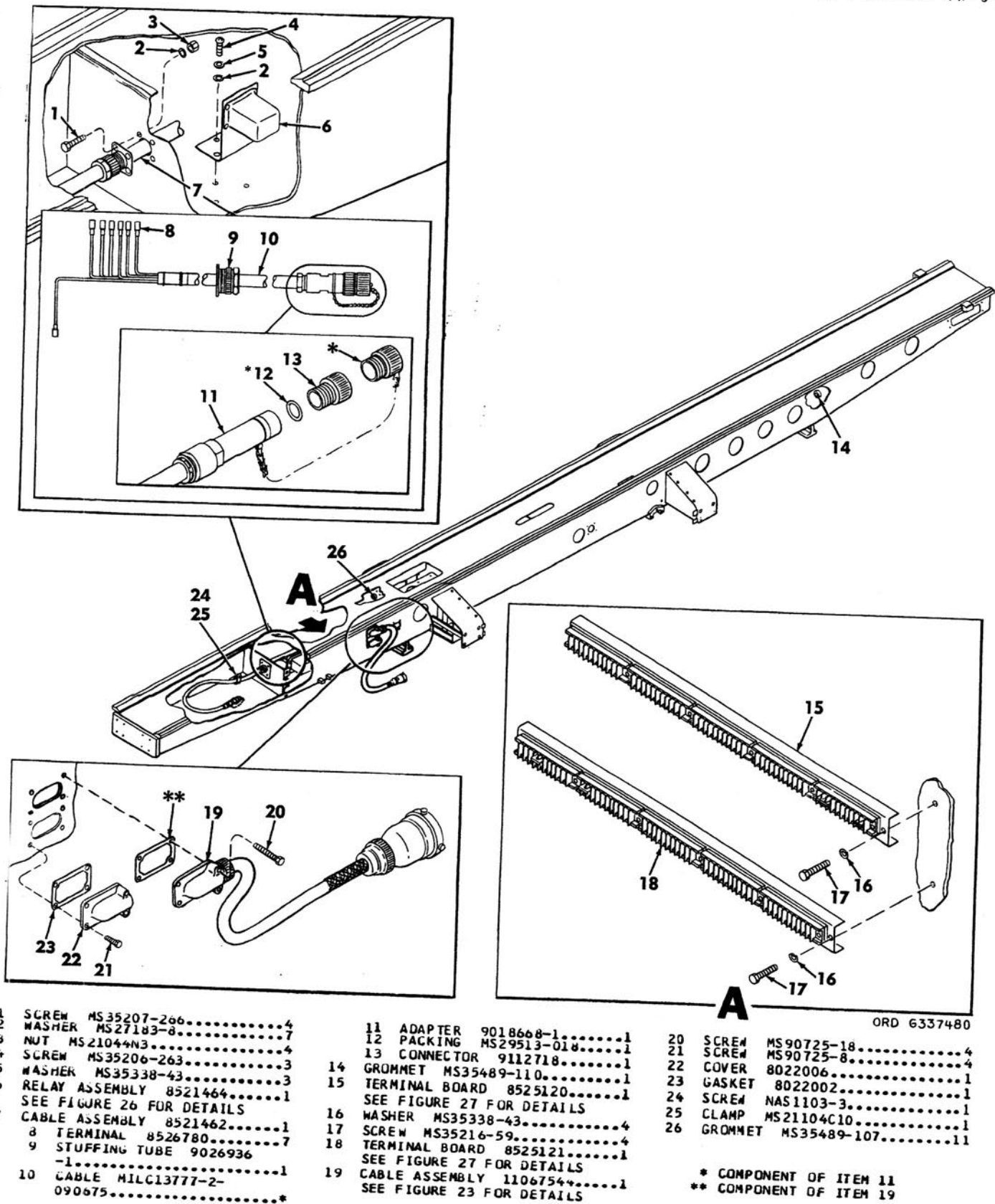
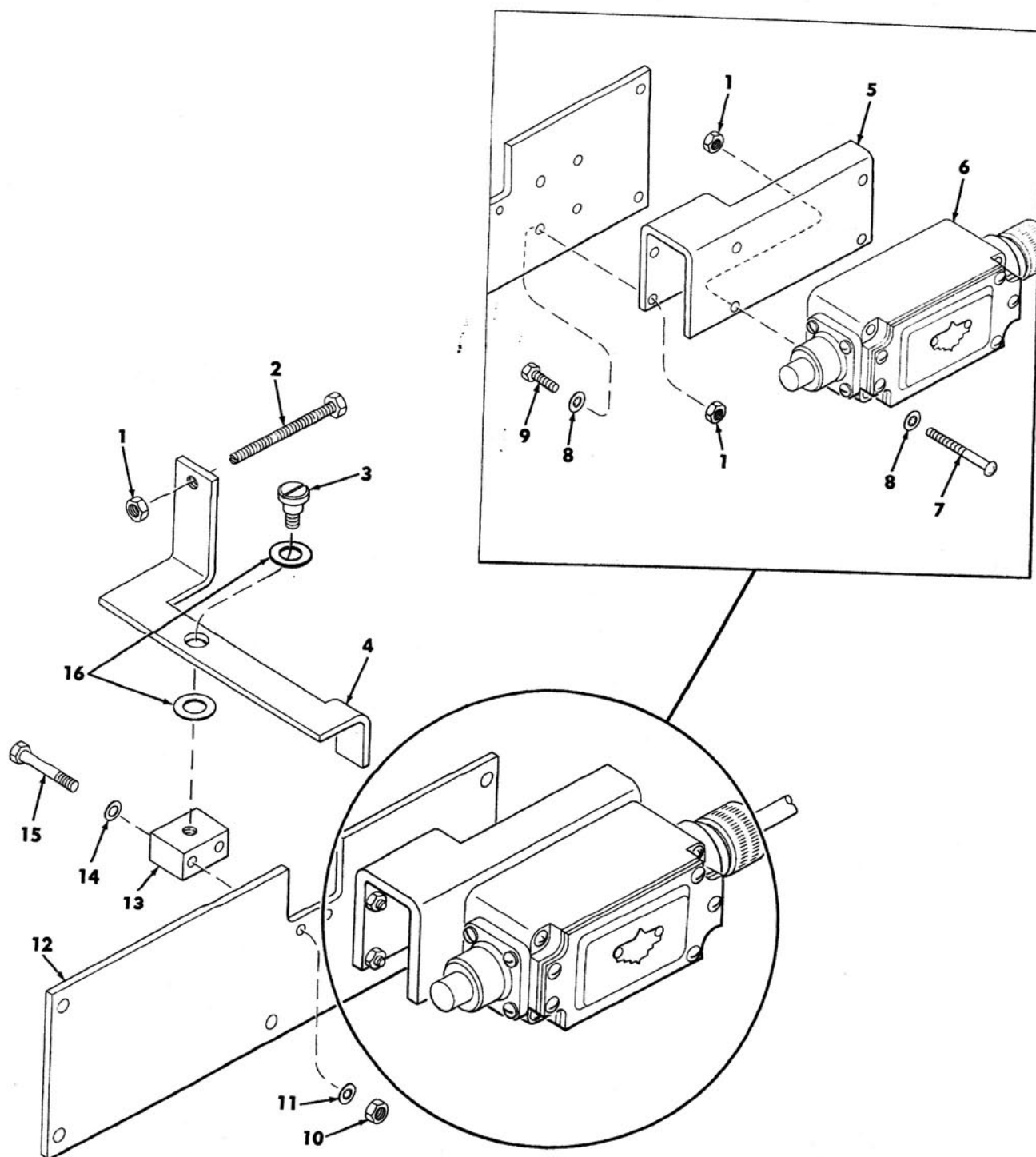


FIGURE 15. ELECTRICAL INSTALLATION, LAUNCHING RAIL /8167172/



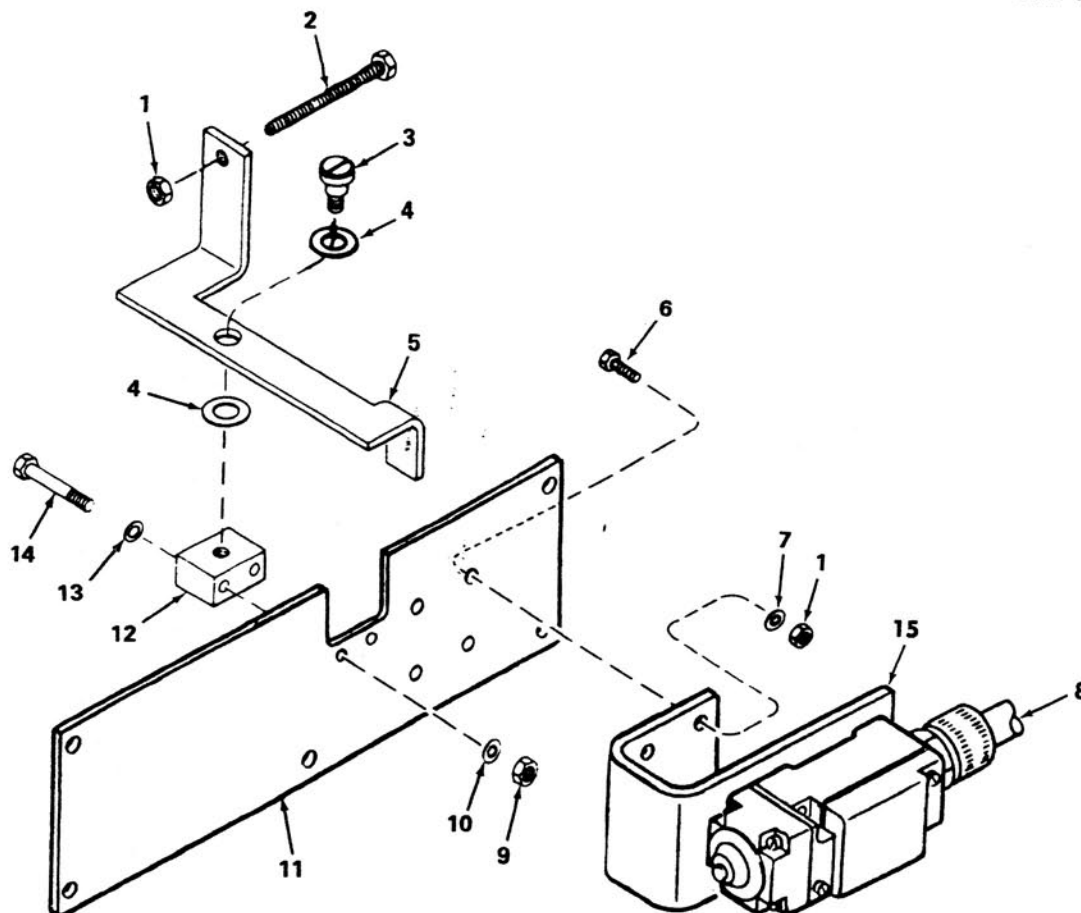
ORD 6337482

1 NUT MS51967-2.....9
 2 SCREW 9020154.....1
 3 SCREW 8526306.....1
 4 BRACKET 8167412.....1
 5 BRACKET 11067572.....1
 6 CABLE ASSEMBLY 8167527.....1
 SEE FIGURE 19 FOR DETAILS

7 SCREW MS51957-89.....4
 8 WASHER MS35333-40.....8
 9 SCREW MS90725-6.....4
 10 NUT MS35650-302.....2
 11 WASHER MS35333-39.....2

12 MOUNTING PLATE 8167413.....1
 13 PLATE 8167494.....1
 14 WASHER MS27183-8.....2
 15 BOLT AN3C14A.....2
 16 WASHER MS27183-14.....2

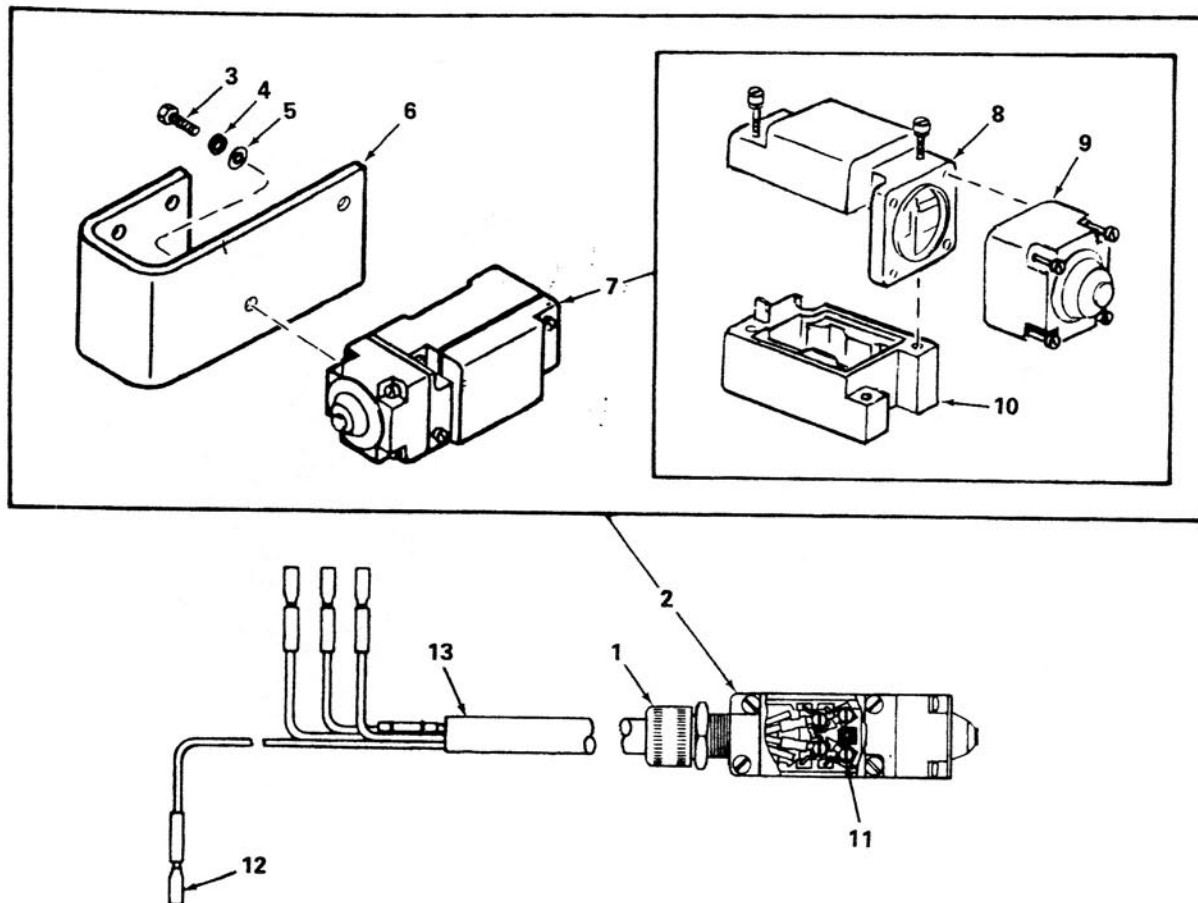
FIGURE 16. CABLE ASSEMBLY SWITCH /8167414/
 /SEE FIGURE 12 FOR NEXT HIGHER ASSEMBLY/



MS009949

1	NUT MS51967-2.....5	7	WASHER MS35333-40.....4	12	PLATE 8167494.....1
2	SCREW 9020154.....1	8	CABLE ASSEMBLY 13060170.....1	13	WASHER MS27183-8.....2
3	SCREW 8526306.....1		SEE FIGURE 18 FOR DETAILS	14	BOLT AN3C14A.....2
4	WASHER MS27183-14.....2	9	NUT MS35650-302.....2	15	BRACKET 13060167.....1
5	BRACKET 8167412.....1	10	WASHER MS35333-39.....2		
6	SCREW MS90725-6.....4	11	MOUNTING PLATE 8167413.....1		

FIGURE 17. CABLE ASSEMBLY SWITCH /8167414/
/SEE FIGURE 12 FOR NEXT HIGHER ASSEMBLY/



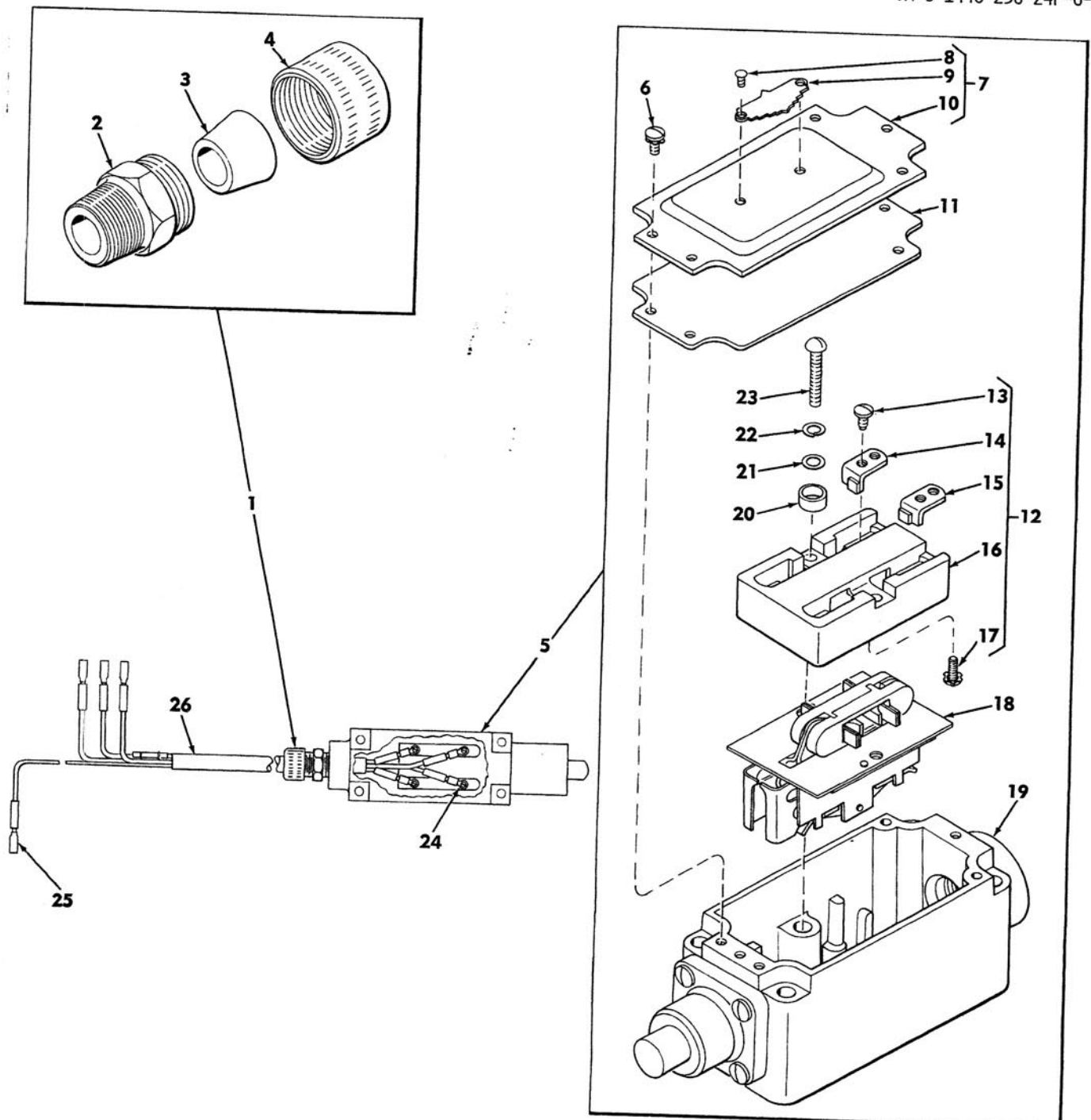
MS010150

1 BDK CONNECTOR 9111745.....1
 2 SWITCH/BRACKET ASSEMBLY
 13060168.....1
 3 SCREW NAS1096-3-09.....2
 4 WASHER MS35338-138.....2
 5 WASHER NAS620C10L.....2

6 BRACKET 13060167.....1
 7 SWITCH ASSEMBLY
 13060166.....1
 8 BODY E50SA.....1
 9 TOP PUSHBUTTON
 E50DT1.....1

10 RECEPTACLE E50RA.....1
 11 TERMINAL MS25036-103.....4
 12 TERMINAL 8526780.....4
 13 CABLE 070618.....1

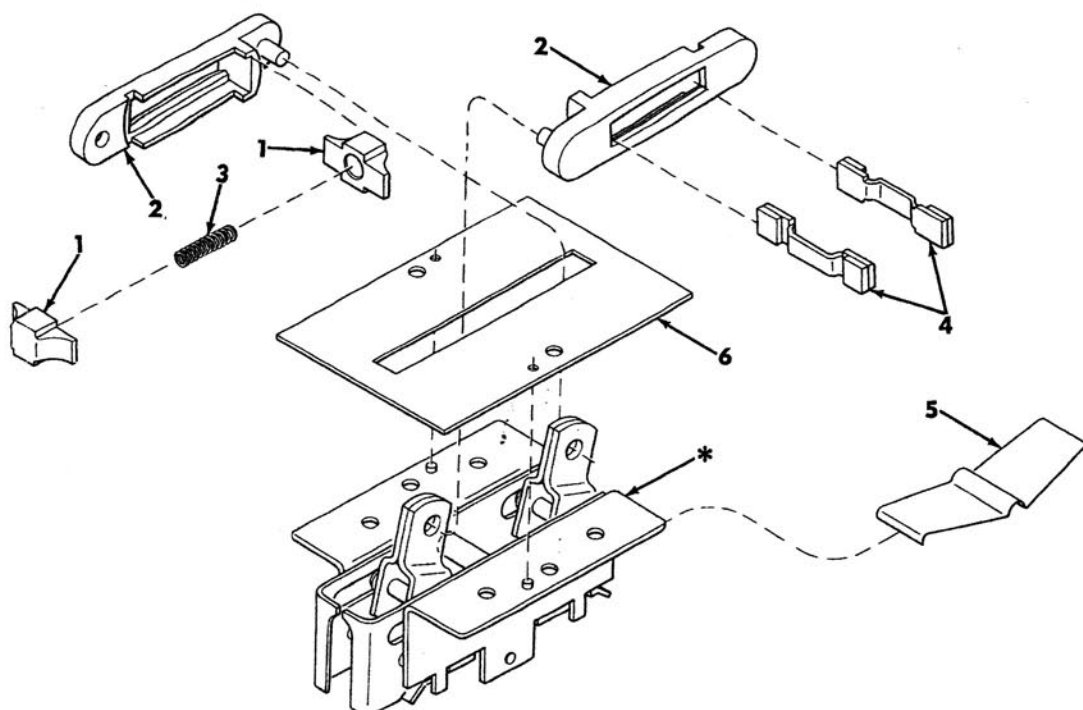
FIGURE 18. CABLE ASSEMBLY /13060170/
 /SEE FIGURE 17 FOR NEXT HIGHER ASSEMBLY/



ORD G337039

- | | | |
|-------------------------------|---------------------------|-------------------------------|
| 1 BOX CONNECTOR 9111745.....1 | 12 CONTACT ASSEMBLY | 19 HOUSING 15605-49- |
| 2 BODY 15235-4316A.....1 | 9018424.....1 | 3161.....1 |
| 3 BUSHING 15235-05.....1 | 13 SCREW 15605-11- | SEE FIGURE 21 FOR DETAILS |
| 4 NUT 15235-94.....1 | 419.....4 | 20 SPACER 15605-16-223.....2 |
| 5 SWITCH 13060166.....1 | 14 CONTACT 15605-21- | 21 WASHER 15605-816-401.....2 |
| 6 SCREW 15605-11-824.....5 | 507-3.....1 | 22 WASHER 15605-16-42.....2 |
| 7 COVER 15605-49-2785- | 15 CONTACT 15605-21- | 23 SCREW 15605-911-436L.....2 |
| 2.....1 | 507-2.....1 | 24 TERMINAL MS25036-103.....4 |
| 8 SCREW 15605-12- | 16 TERMINAL BOARD | 25 TERMINAL 8526780.....4 |
| 198.....2 | 15605-17-1775-2.....1 | 26 CABLE 070618.....* |
| 9 PLATE 15605-30- | 17 SCREW 15605-11- | |
| 489.....1 | 824.....2 | |
| 10 COVER 15605-49- | 18 SWITCH SUBASSEMBLY | |
| 2785.....1 | 8527134.....1 | |
| 11 GASKET 15605-27-294.....1 | SEE FIGURE 20 FOR DETAILS | |

FIGURE 19. CABLE ASSEMBLY /8167527/
/SEE FIGURE 16 FOR NEXT HIGHER ASSEMBLY/



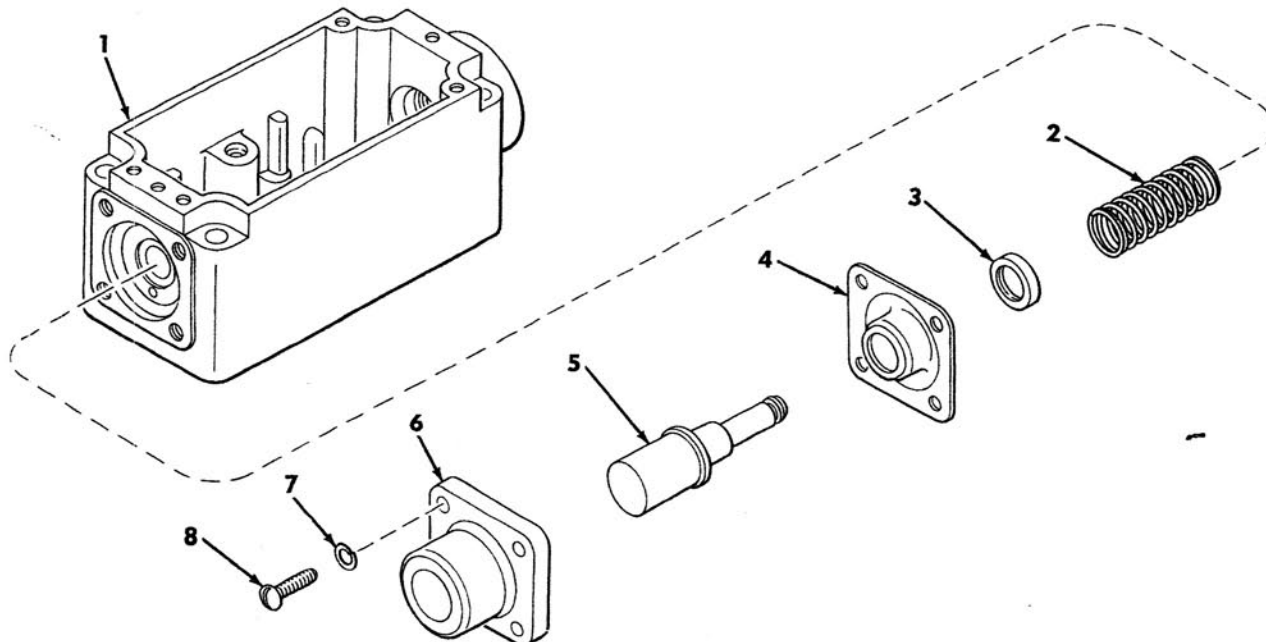
- 1 RETAINER 15605-55-534.....2
- 2 TERMINAL BOARD 15605-17-1774-2.....2
- 3 SPRING 15605-69-920.....1

- 4 CONTACT 15605-21-308-3.....2
- 5 CLIP 15605-69-919.....1
- 6 PLATE 15605-56-1225.....1

ORD G266077

* COMPONENT OF SWITCH
SUBASSEMBLY 8527134

FIGURE 20. SWITCH SUBASSEMBLY /8527134/
/SEE FIGURE 19 FOR NEXT HIGHER ASSEMBLY/



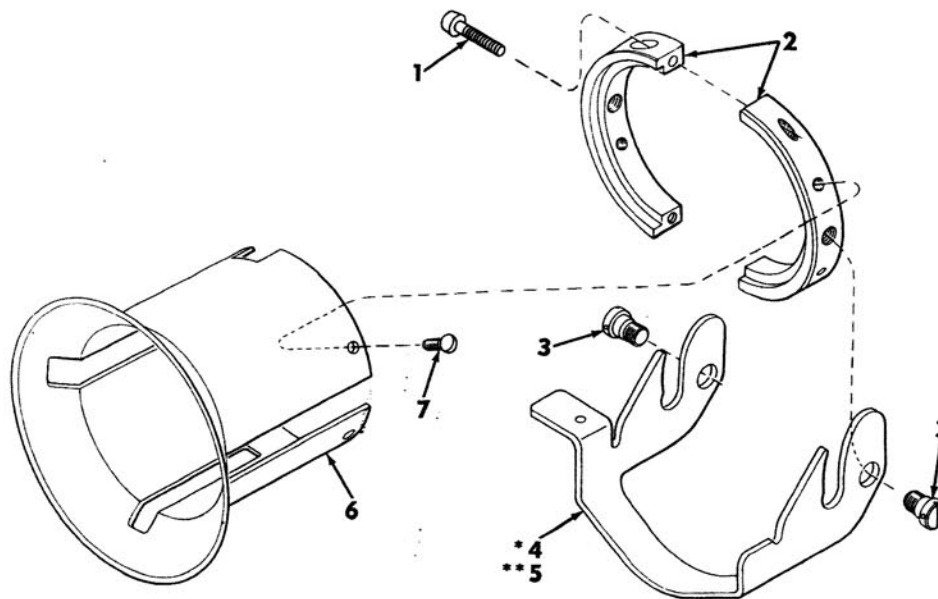
- 1 HOUSING 15605-49-1819.....1
- 2 SPRING 8527169.....1
- 3 WASHER 15605-16-909.....1

- 4 BUMPER 15605-16-1710.....1
- 5 PLUNGER 15605-51-858.....1
- 6 GUIDE 15605-20-722.....1

- 7 WASHER 15605-916-484Z.....4
- 8 SCREW 15605-911-500Z.....4

ORD G266078

FIGURE 21. HOUSING, SENSITIVE SWITCH /15605-49-3161/
/SEE FIGURE 19 FOR NEXT HIGHER ASSEMBLY/

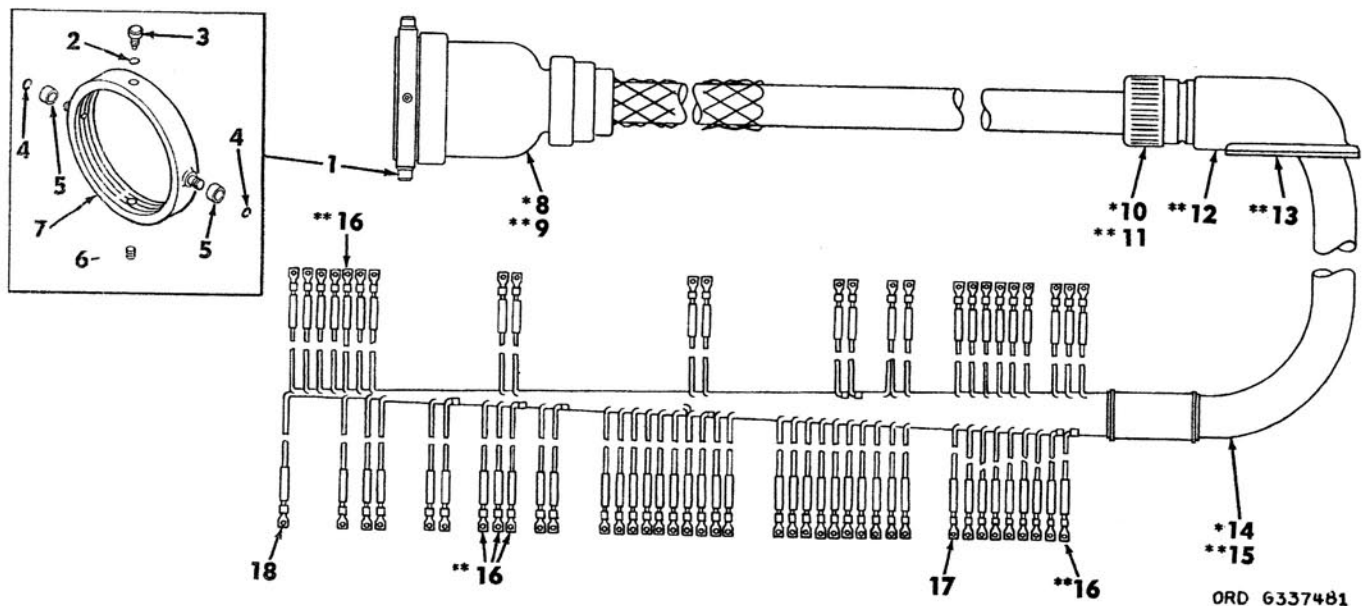


ORD G297306

- | | |
|--------------------------|---------------------------|
| 1 SCREW MS16998-29.....2 | 5 CAM 8428292.....1 |
| 2 SPACER 8428291.....2 | 6 BODY 8428290.....1 |
| 3 SCREW 8428294.....2 | 7 SCREW MS35207-260.....4 |
| 4 CAM 8428293.....1 | |

* FOR BELL ASSEMBLY 8527036
 ** FOR BELL ASSEMBLY 8527037

FIGURE 22. BELL ASSEMBLY, ELECTRICAL INSTALLATION /8527036 AND 8527037/
 /SEE FIGURE 12 FOR NEXT HIGHER ASSEMBLY/

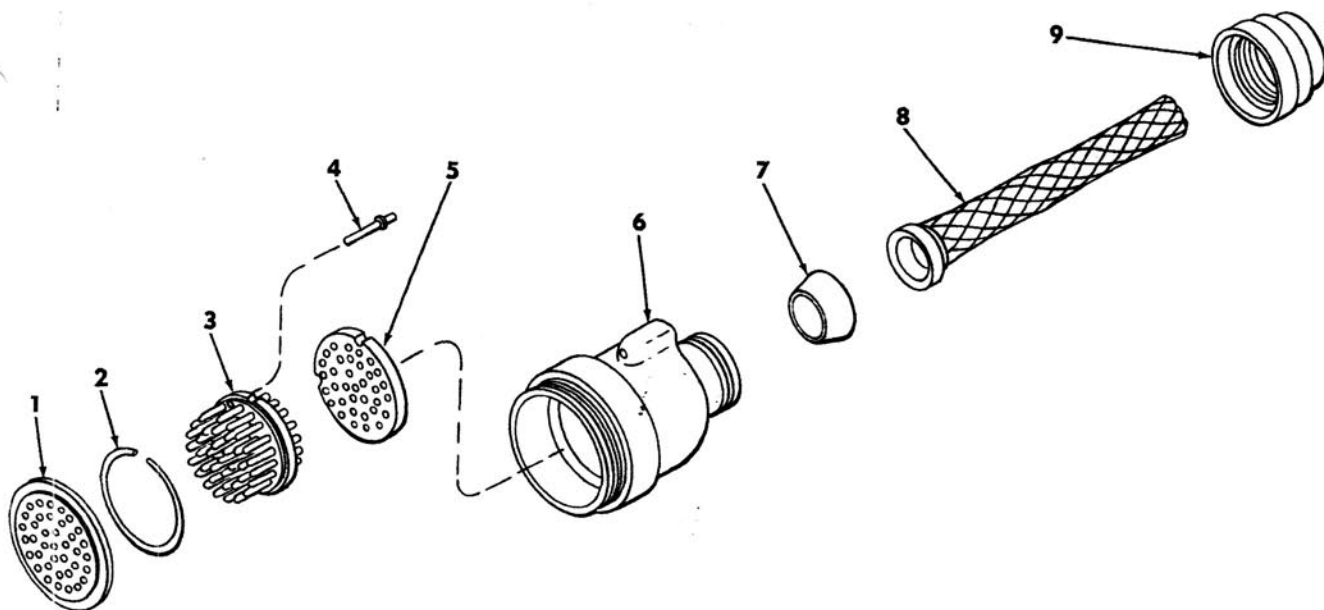


ORD G337481

- | | | |
|-----------------------------|---------------------------------|----------------------------|
| 1 ADAPTER 8526762.....1 | 9 CONNECTOR 11067515.....1 | 15 CABLE 11067508.....* |
| 2 WASHER MS35338-43.....1 | SEE FIGURE 25 FOR DETAILS | 16 TERMINAL 8526779.....5 |
| 3 SCREW 8428221.....1 | 10 ADAPTER 8020622.....1 | 17 TERMINAL 8526778.....15 |
| 4 RING MS16632-1037.....2 | 11 CONDUIT OUTLET 8528811.....1 | 18 TERMINAL 8526780.....60 |
| 5 ROLLER 8428222.....2 | 12 COVER 8528508.....1 | |
| 6 SETSCREW MS51964-49.....1 | 13 GASKET 8022002.....1 | |
| 7 RING 8428223.....1 | 14 CABLE 2610655.....* | |
| 8 CONNECTOR 8526871.....1 | | |
| SEE FIGURE 24 FOR DETAILS | | |

* FOR CABLE ASSEMBLY 11067500
 ** FOR CABLE ASSEMBLY 11067544

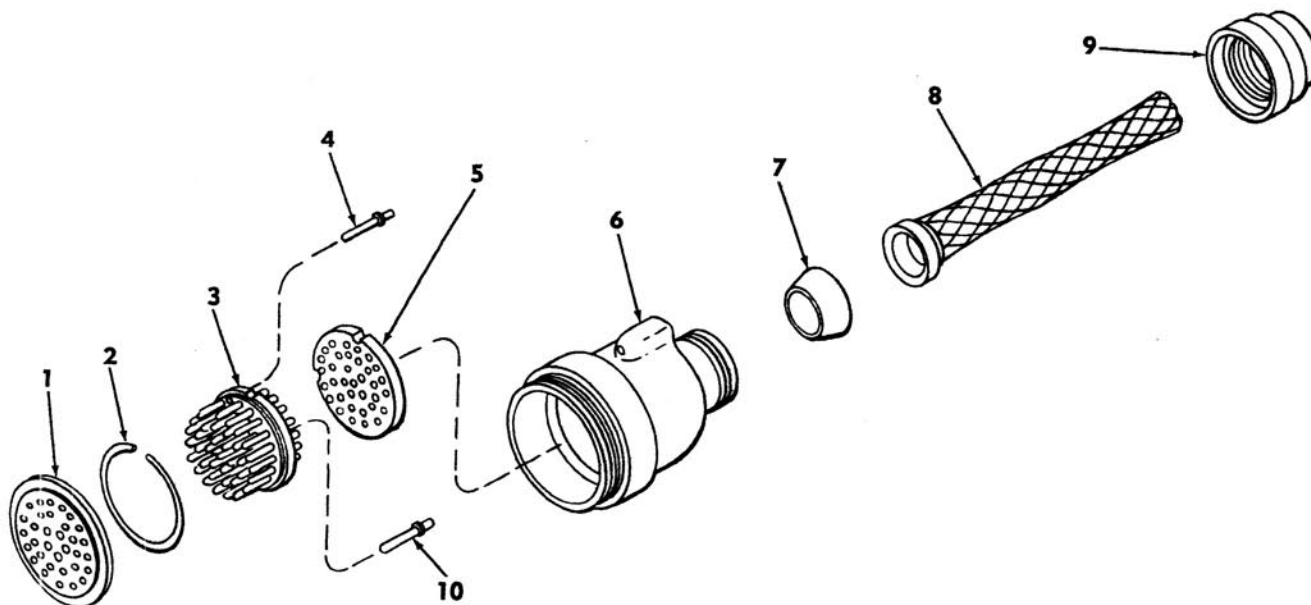
FIGURE 23. CABLE ASSEMBLY, POWER, ELECTRICAL /11067500 AND 11067544/
 /SEE FIGURES 12 AND 15 FOR NEXT HIGHER ASSEMBLY/



ORD G337002

1	INSULATOR 7632548.....1	4	CONTACT 7632546.....28	7	BUSHING 540631.....1
2	RING 5183444.....1	5	INSULATOR 7632550.....1	8	GRIP 8206675.....1
3	INSULATOR 7632547.....1	6	SHELL 8428195.....1	9	ADAPTER 8428141.....1

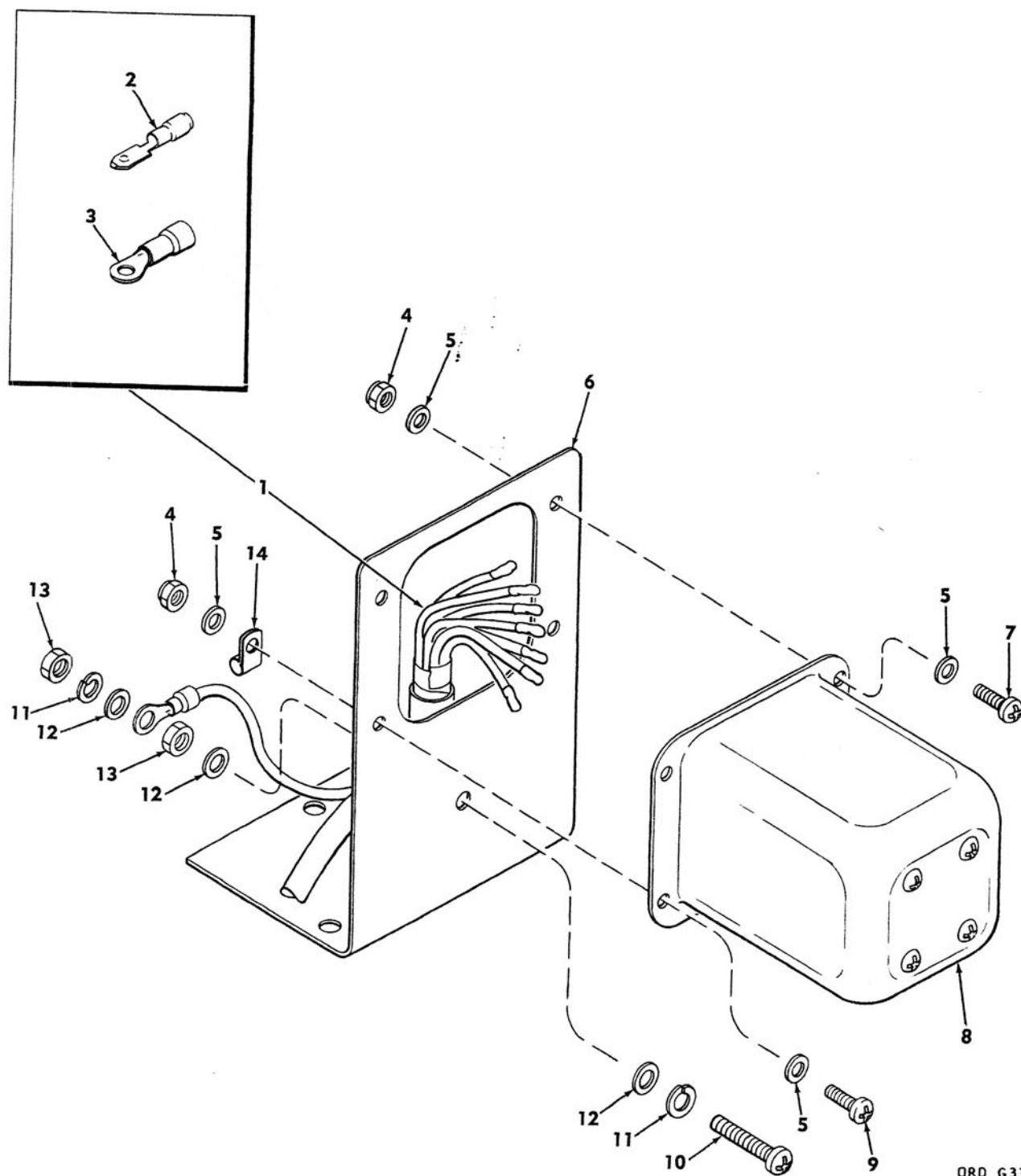
FIGURE 24. CONNECTOR, PLUG, ELECTRICAL /8526871/
/SEE FIGURE 23 FOR NEXT HIGHER ASSEMBLY/



ORD G337003

1	GROMMET 8428264.....1	5	INSULATOR 8428263.....1	9	ADAPTER 11067512.....1
2	RING 5183444.....1	6	SHELL 11067511.....1	10	CONTACT 8428266.....3
3	INSULATOR 8428262.....1	7	BUSHING 540683.....1		
4	CONTACT 8428265.....62	8	GRIP 11067574.....1		

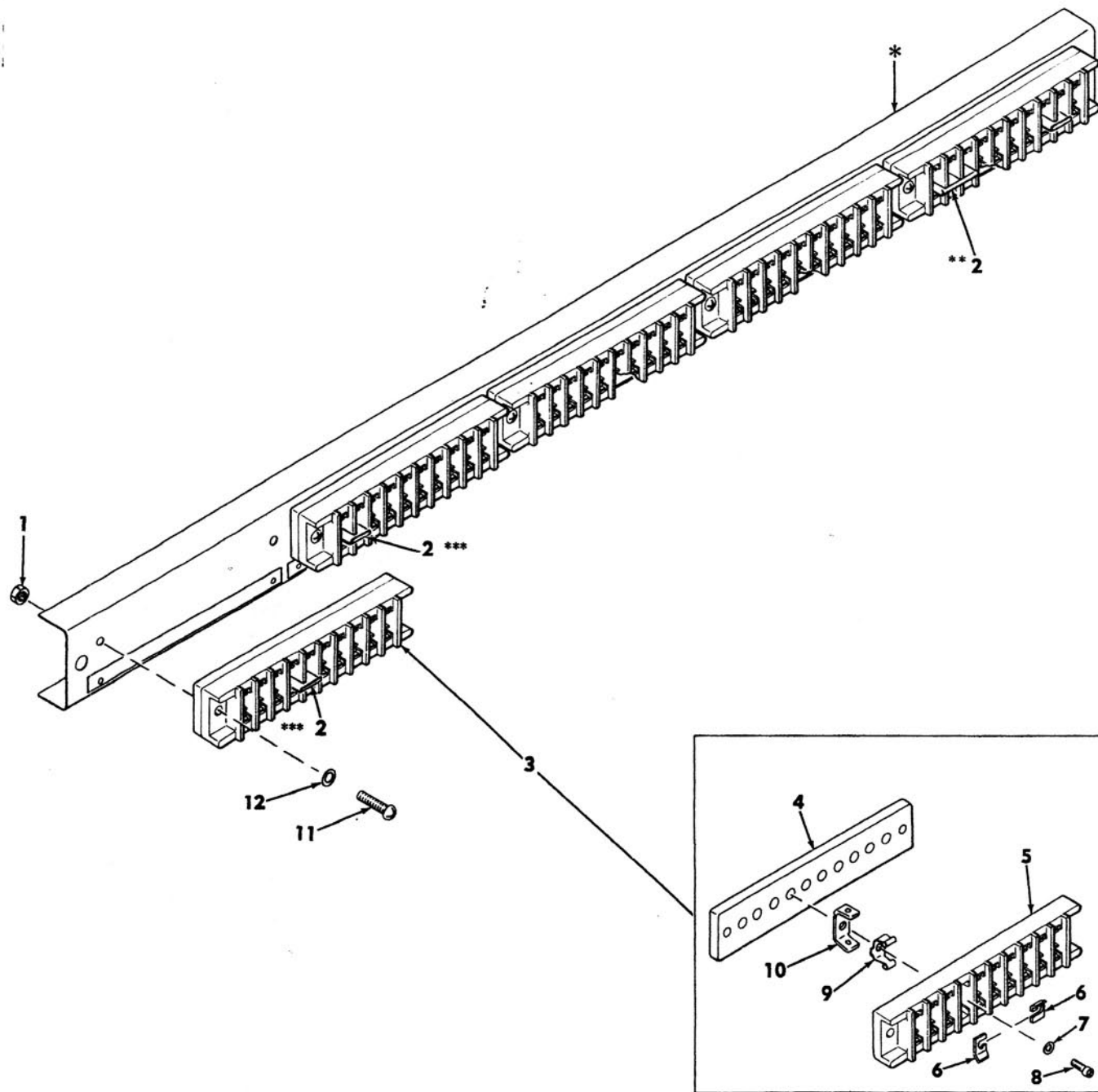
FIGURE 25. CONNECTOR, PLUG, ELECTRICAL ASSEMBLY /11067515/
/SEE FIGURE 23 FOR NEXT HIGHER ASSEMBLY/



ORD G337004

1	CABLE ASSEMBLY 8521461.....1	6	BRACKET 8521463.....1	11	WASHER MS35338-42.....2
2	TERMINAL 8526780.....9	7	SCREW MS51957-28.....3	12	WASHER MS27183-7.....3
3	TERMINAL MS25036-103.....1	8	RELAY 8428219.....1	13	NUT MS35649-282.....2
4	NUT MS21083N06.....4	9	SCREW MS35206-230.....1	14	CLAMP MS25281R4.....1
5	WASHER MS27183-5.....8	10	SCREW MS35206-249.....1		

FIGURE 26. RELAY ASSEMBLY, BLOWER /8521464/
/SEE FIGURE 15 FOR NEXT HIGHER ASSEMBLY/



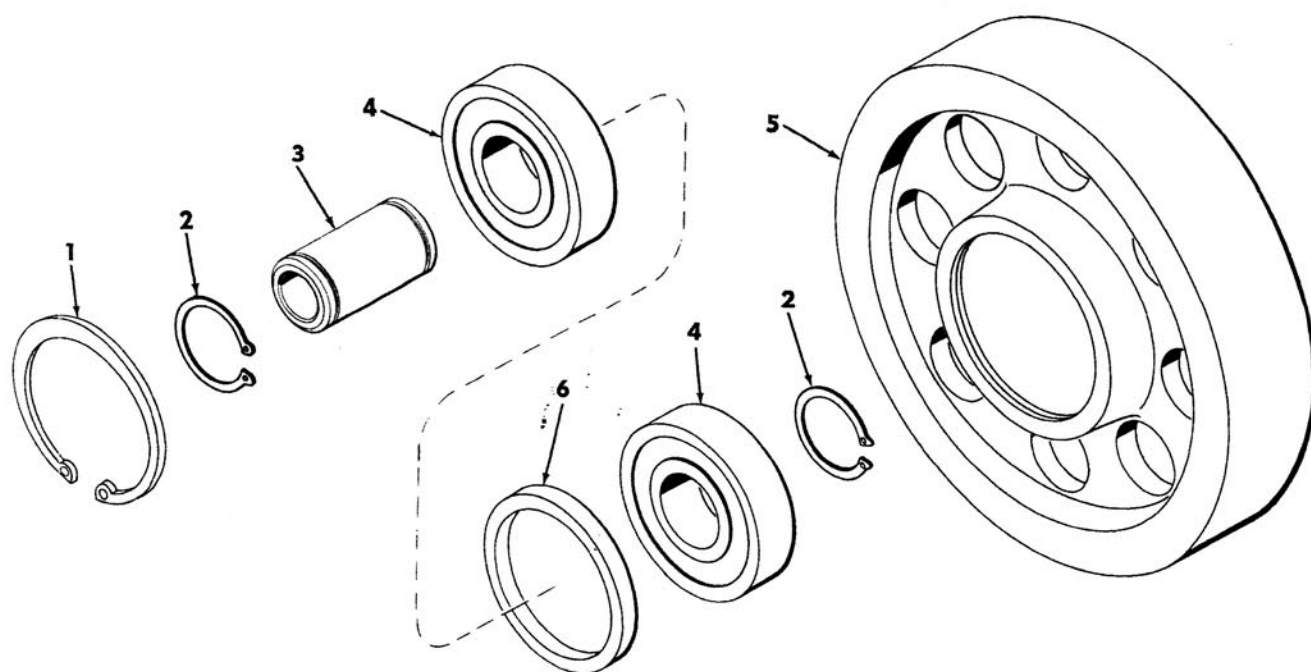
MI 37886

1 NUT MS21083N06.....10
2 BUS BAR 8528938.....4
3 TERMINAL BOARD 8528926.....5
4 BASE T1006-2.....1
5 BOARD T1006-1.....1
6 CLIP T1003.....2

7 WASHER T1002.....1
8 SCREW T1001.....1
9 CONTACT T1004.....1
10 BRACKET T1005.....1
11 SCREW MS51957-32.....10
12 WASHER MS27183-5.....10

* COMPONENT OF TERMINAL BOARD
8525120 AND 8525121
** FOR TERMINAL BOARD 8525120
*** FOR TERMINAL BOARD 8525121

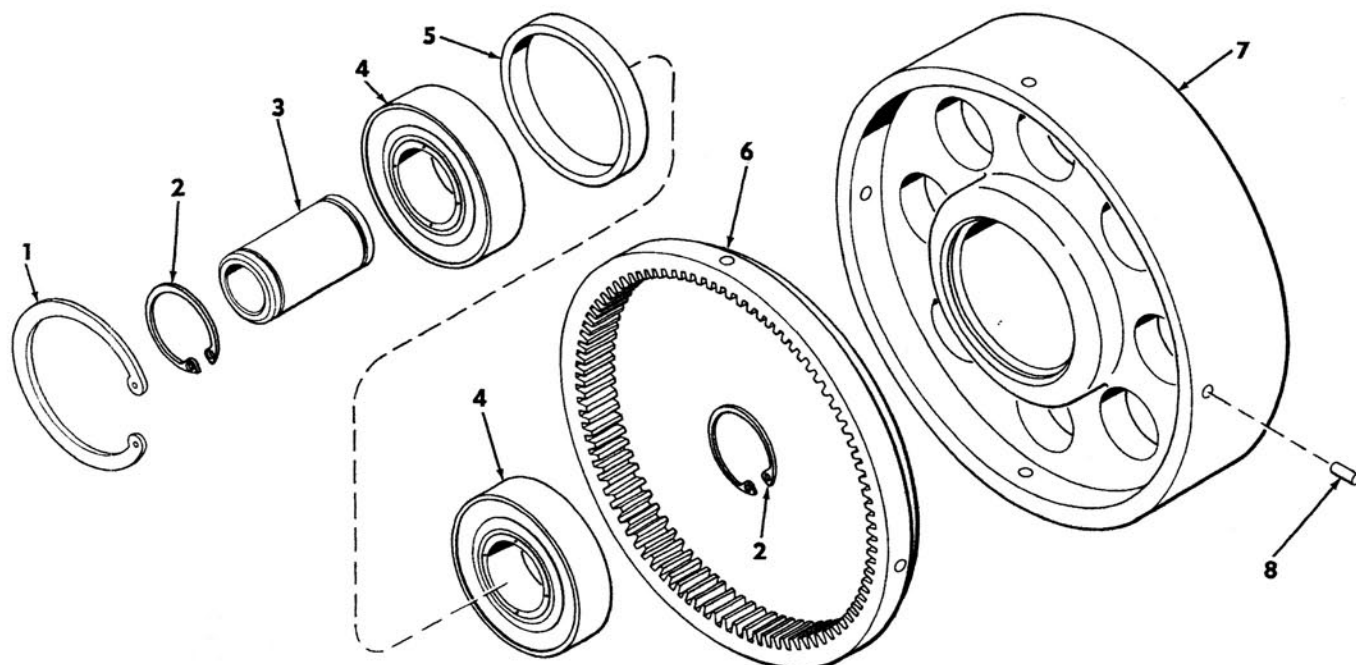
FIGURE 27. TERMINAL BOARD /8525120 AND 8525121/
/SEE FIGURE 15 FOR NEXT HIGHER ASSEMBLY/



ORD G297309

1 RING MS16625-1315.....1	3 SLEEVE 11067563.....1	5 WHEEL 8167417.....1
2 RING MS16626-1137.....2	4 BEARING 8528201.....2	6 SPACER 8167420.....1

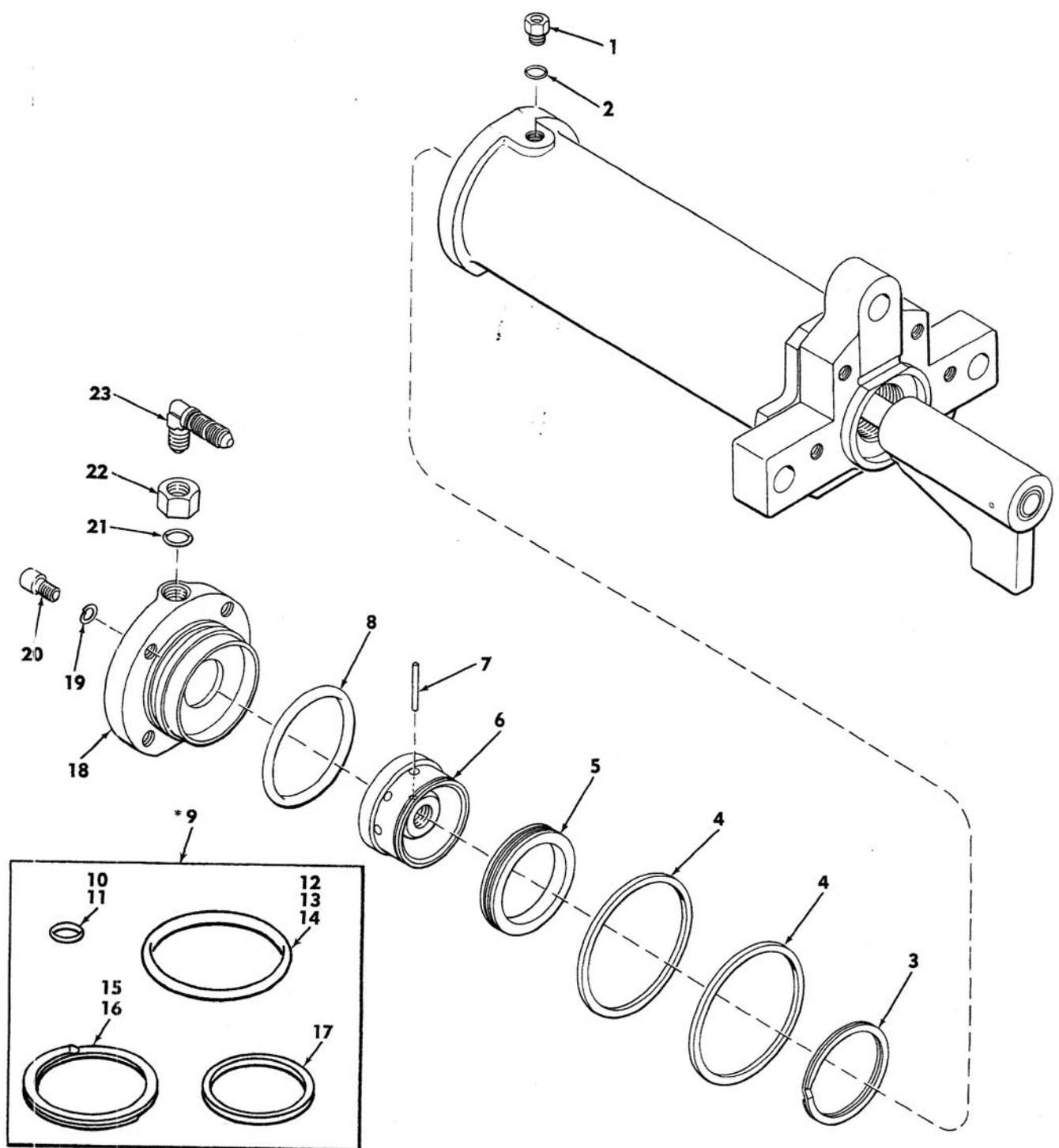
FIGURE 28. WHEEL ASSEMBLY /8167416/
/SEE FIGURE 8 FOR NEXT HIGHER ASSEMBLY/



ORD G297310

1 RING MS16625-1315.....1	4 BEARING 8528201.....2	7 WHEEL 8167436.....1
2 RING MS16626-1137.....2	5 SPACER 8167420.....1	8 PIN 589919.....4
3 SLEEVE 11067563.....1	6 GEAR 8167434.....1	

FIGURE 29. WHEEL ASSEMBLY /8167435/
/SEE FIGURE 8 FOR NEXT HIGHER ASSEMBLY/



MI 37887

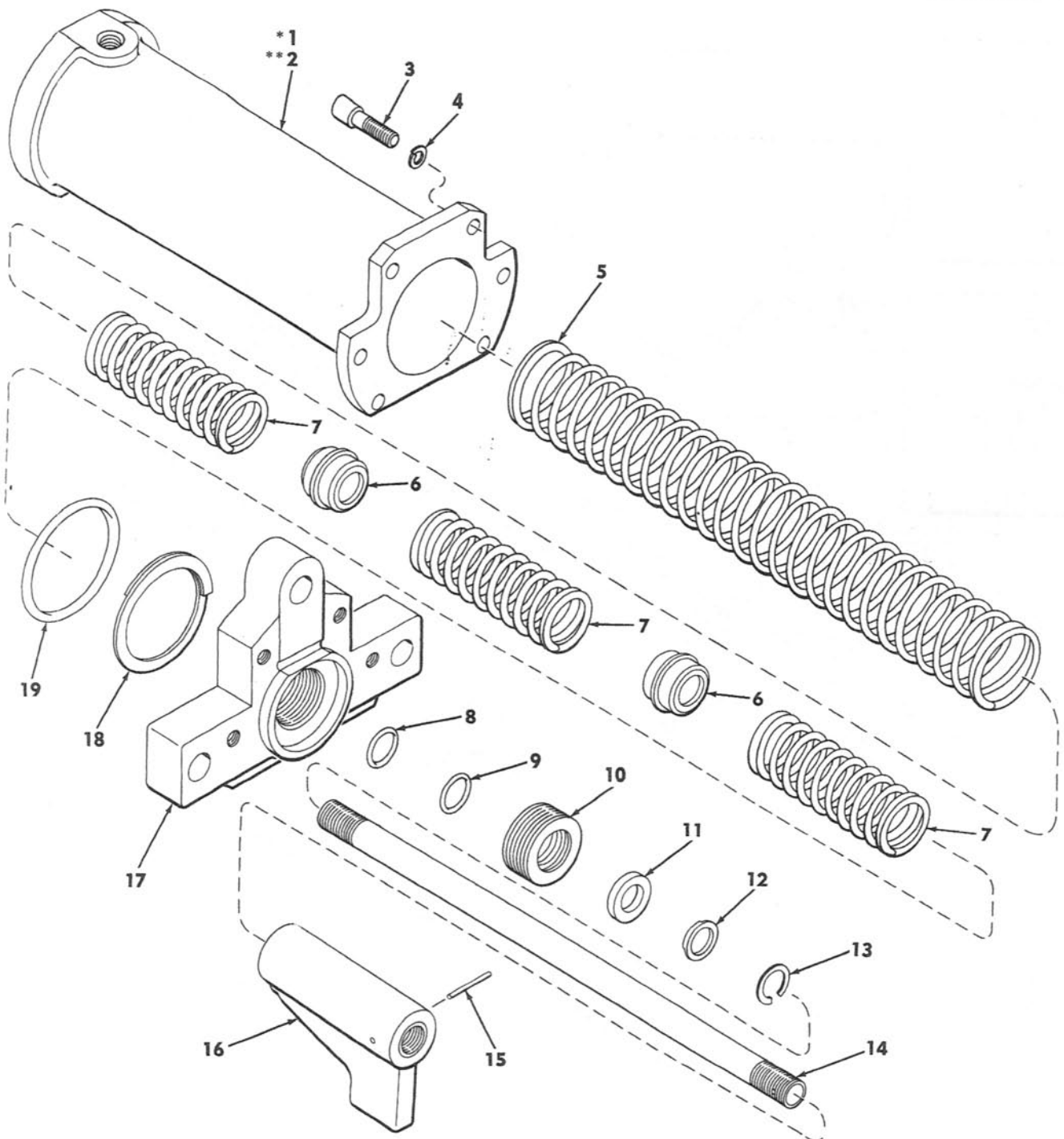
1 PLUG AN814-2.....1
2 PACKING MS28778-2.....1
3 RING 10015592-050.....1
4 RING 8167778.....2
5 PISTON 9025991.....1
6 PISTON 9025992.....1
7 PIN 586088.....1
8 GASKET AN6230-7.....1
9 REPAIR KIT 5952134.....1

10 PACKING MS28778-2.....1
11 PACKING 10596841-1.....1
12 PACKING MS28775-113.....1
13 PACKING MS28775-229.....1
14 PACKING MS28775-330.....1
15 RETAINER MS28782-12.....1
16 RETAINER MS28782-33.....1
17 FELT STRIP MS28932C-02-06.....1

18 CAP 8525177.....1
19 WASHER MS35338-45.....4
20 SCREW MS16998-55.....4
21 PACKING 10596841-1.....1
22 NUT MS24400D4.....1
23 ELBOW MS24394D4.....1

* ISSUED AS SEPARATE UNIT

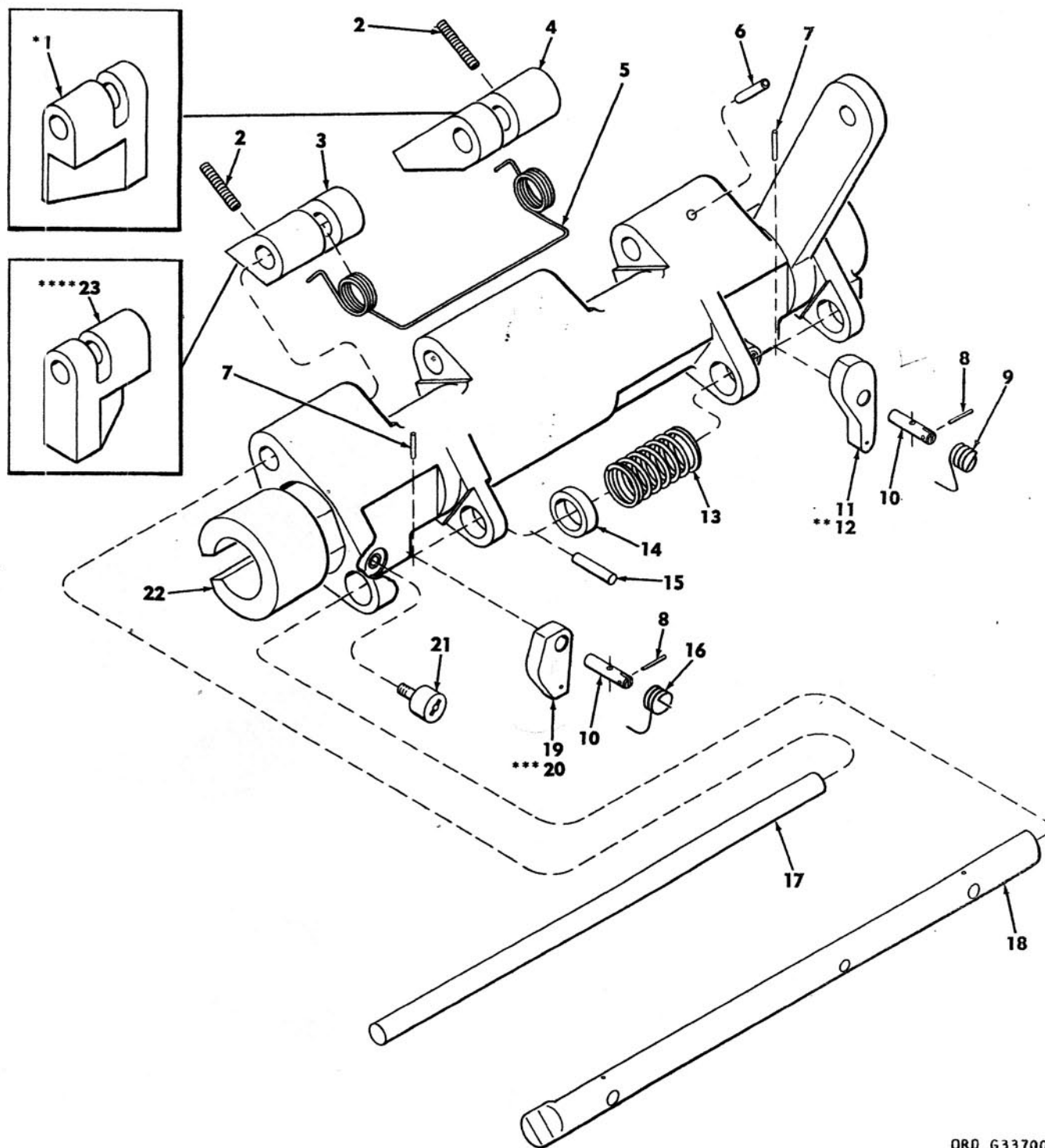
FIGURE 30. CYLINDER ASSEMBLY, ACTUATING, LINEAR /8521441 AND 8521453/
/SEE FIGURE 9 FOR NEXT HIGHER ASSEMBLY/



URD G297312

1 CYLINDER 8525175.....1	10 PACKING NUT 8167121.....1	18 RETAINER MS28782-33.....1
2 CYLINDER 8525176.....1	11 PACKING MATERIAL MS28932-1.....1	19 PACKING 8034483.....1
3 SCREW MS16998-59.....6		
4 WASHER MS35338-45.....6	12 RING MS28776M2-3.....1	* FOR CYLINDER ASSEMBLY
5 SPRING 8525166.....1	13 RING MS16627-1093.....1	8521453
6 SPACER 8525067.....2	14 ROD 8167962.....1	** FOR CYLINDER ASSEMBLY
7 SPRING 8525170.....3	15 PIN 586088.....1	8521441
8 PACKING 8034459.....1	16 PLUG 8525202.....1	
9 RETAINER MS28782-12.....1	17 HEAD 8525031.....1	

FIGURE 31. CYLINDER ASSEMBLY, ACTUATING, LINEAR /8521441 AND 8521453/



ORD G337006

1 LATCH 11067554.....1
 2 SETSCREW 9151244.....2
 3 LATCH 8525250.....1
 4 LATCH 8525251.....1
 5 SPRING 9031249.....1
 6 PIN MS16562-50.....1
 7 PIN MS16562-8.....2
 8 PIN MS16562-3.....2
 9 SPRING 8530904.....1
 10 PIN 8530889.....2

11 CAM 8530898.....1
 12 CAM 11067555.....1
 13 SPRING 9031263.....1
 14 SPACER 8167465.....1
 15 PIN MS16562-49.....1
 16 SPRING 8530890.....1
 17 PIN 9031260.....1
 18 PIN 9030169.....1
 19 CAM 8530897.....1
 20 CAM 11067556.....1

21 FOLLOWER 8364660.....2
 22 STOP ASSEMBLY 8525272.....1
 23 LATCH 11067553.....1

* ALTERNATE FOR ITEM 4
 ** ALTERNATE FOR ITEM 11
 *** ALTERNATE FOR ITEM 19
 **** ALTERNATE FOR ITEM 3

FIGURE 32. BRAKE, LAUNCHING RAIL /8525285/
 /SEE FIGURE 9 FOR NEXT HIGHER ASSEMBLY/

SECTION IV. NUMERICAL INDEX

REFERENCE NUMBER	FIG. NO.	ITEM NO.	REFERENCE NUMBER	FIG. NO.	ITEM NO.	REFERENCE NUMBER	FIG. NO.	ITEM NO.
AN115409	13	21	MILT6845 1-4X-035	7	4	MS20068-122	8	16
AN115411	13	20		7	12	MS20074-10-23	2	7
AN3-3A	11	17		7	20	MS20392-5C31	4	5
AN3-7A	12	18	MS16555-60	9	5		5	19
AN3C14A	16	15	MS16562-3	32	8	MS20392-7C95	11	7
	17	14	MS16562-33	11	21	MS20819-4	7	11
AN4-11A	12	23	MS16562-34	11	3		7	24
AN415-1-1	4	7	MS16562-36	10	18	MS20819-4J	7	3
	5	1	MS16562-49	32	15		7	19
AN520-0-2	3	9	MS16562-50	9	11	MS21044N08	14	1
AN6-11	4	9		32	6	MS21044N3	12	17
AN6230-7	30	8	MS16562-65	4	2		15	3
AN814-2	30	1	MS16562-8	32	7	MS21044N4	12	20
AN816-4-4C	7	7	MS16624-1087	5	4	MS21083N06	26	4
AN818-4	7	10	MS16625-1315	28	1		27	1
	7	23		29	1	MS21083N3	13	8
AN818-4C	7	2	MS16626-1059	8	24	MS21104C10	15	25
	7	18	MS16626-1068	8	12	MS21105-18	13	9
AN824-4C	7	13	MS16626-1137	28	2	MS21919WH16	13	30
AN833-C4	7	5		29	2	MS21920-26R	3	13
AN924-4J	7	6	MS16627-1093	31	13	MS24394D4	30	23
AN960-10	12	16	MS16632-1037	23	4	MS24395J4	7	21
AN960-1216L	8	11	MS16998-29	22	1	MS24400D4	30	22
AN960-416	12	21	MS16998-55	30	20	MS24629-20	2	4
AN960C1616L	8	19	MS16998-59	31	3		3	30
AN960C616L	11	24	MS17821-1-9	14	10	MS24665-155	10	5
E50DT1	18	9	MS17821-2-2	14	11	MS24665-302	11	4
E50RA	18	10	MS18154-60	8	15	MS24668-11	8	3
E50SA	18	8	MS20002-8	10	17	MS25036-103	18	11
MILC13777-2-090675	15	10	MS20067-118	5	13		19	24
						MS25043-32D	26	3
							13	18

REFERENCE NUMBER	FIG. NO.	ITEM NO.	REFERENCE NUMBER	FIG. NO.	ITEM NO.	REFERENCE NUMBER	FIG. NO.	ITEM NO.
8530889	32	10	9032143	10	6			
8530890	32	16	9032212	2	11			
8530897	32	19	9032471	5	14			
8530898	32	11	9032472	4	15			
8530904	32	9	9032475	4	16			
9003262	13	25	9034320	2	1			
9017736	14	8	911-436Z	19	23			
9017737	2	17	911-500Z	21	8			
9018424	19	12	9111745	12	1			
9018668-1	15	11		18	1			
9018840	4	10		19	1			
	5	7	9112718	15	13			
	8	33	9151244	9	15			
	10	23		32	2			
9019000	9	4	9151329	8	13			
9019275	11	2	9151469	8	34			
9019300	11	1	9151643	10	8			
9020154	16	2	9151815	10	24			
	17	2	9152160	14	7			
9020381	10	22	9153488	2	12			
9020383	10	1	916-484Z	21	7			
9020397	10	9	94	12	4			
9020398	10	4		19	4			
9020401	10	2	9977069	12	19			
9022333	12	15	9977153	8	4			
9025043	3	17	9977163	12	22			
9025044	3	12	9977164	12	24			
9025991	30	5	9977579	3	22			
9025992	30	6	9977596	3	26			
9026936-1	15	9	9977597	3	25			
9029768	8	10	9977598	3	23			
9029795	3	11	9977602	3	29			
9029931	7	16	9978397	3	5			
9029934	7	17	9978398	3	7			
9030169	32	18	9978399	3	4			
9031249	9	18	9978400	3	8			
	32	5	9978401	3	2			
9031260	9	10	9979094	3	1			
	32	17						
9031263	32	13						
9031878	3	14						
9032134	10	11						

REFERENCE NUMBER	FIG. NO.	ITEM NO.	REFERENCE NUMBER	FIG. NO.	ITEM NO.	REFERENCE NUMBER	FIG. NO.	ITEM NO.
8530889	32	10	9032143	10	6			
8530890	32	16	9032212	2	11			
8530897	32	19	9032471	5	14			
8530898	32	11	9032472	4	15			
8530904	32	9	9032475	4	16			
9003262	13	25	9034320	2	1			
9017736	14	8	911-436Z	19	23			
9017737	2	17	911-500Z	21	8			
9018424	19	12	9111745	12	1			
9018668-1	15	11		18	1			
9018840	4	10	9112718	19	1			
	5	7		15	13			
	8	33	9151244	9	15			
	10	23		32	2			
9019000	9	4	9151329	8	13			
9019275	11	2	9151469	8	34			
9019300	11	1	9151643	10	8			
9020154	16	2	9151815	10	24			
	17	2						
9020381	10	22	9152160	14	7			
9020383	10	1	9153488	2	12			
9020397	10	9	916-484Z	21	7			
9020398	10	4	94	12	4			
9020401	10	2		19	4			
9022333	12	15	9977069	12	19			
9025043	3	17	9977153	8	4			
9025044	3	12	9977163	12	22			
9025991	30	5	9977164	12	24			
9025992	30	6	9977579	3	22			
9026936-1	15	9	9977596	3	26			
9029768	8	10	9977597	3	25			
9029795	3	11	9977598	3	23			
9029931	7	16	9977602	3	29			
9029934	7	17	9978397	3	5			
9030169	32	18	9978398	3	7			
9031249	9	18	9978399	3	4			
	32	5	9978400	3	8			
9031260	9	10	9978401	3	2			
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9032134	10	11						

REFERENCE NUMBER	FIG. NO.	ITEM NO.	REFERENCE NUMBER	FIG. NO.	ITEM NO.	REFERENCE NUMBER	FIG. NO.	ITEM NO.
T1004	27	9	16-223	19	20	8022006	15	22
T1005	27	10	16-42	19	22	8031053	13	10
T1006-1	27	5	16-909	21	3	8031098	12	27
T1006-2	27	4	17-1774-2	20	2	8034459	31	8
05	12 19	3 3	17-1775-2	19	16	8034483	31	19
070618	18 19	13 26	20-722	21	6	816-401	19	21
10015592-050	30	3	21-308-3	20	4	8165440	10	16
10596841-1	30 30	11 21	21-507-2	19	15	8167019	8	27
11-419	19	13	21-507-3	19	14	8167026	8	26
11-824	19 19	6 17	2610655	23	14	8167037	4	3
11067500	12	29	27-294	19	11	8167121	31	10
11067504	11	25	30-489	19	9	8167172	6	6
11067508	23	15	4316A	12 19	2 2	8167388	13	23
11067511	25	6	49-1819	21	1	8167393	13	12
11067512	25	9	49-2785	19	10	8167412	16 17	4 5
11067515	23	9	49-2785-2	19	7	8167413	16 17	12 11
11067517	2	19	49-3161	19	19	8167414	12	5
11067518	11	18	51-858	21	5	8167416	8	1
11067528	13	2	5183444	24 25	2 2	8167417	28	5
11067544	15	19	5183447	12	11	8167418	8	20
11067546	8	32	5183448	12	9	8167420	28 29	6 5
11067553	9 32	13 23	540631	24	7	8167422	8	8
11067554	9 32	17 1	540683	25	7	8167434	29	6
11067555	32	12	55-534	20	1	8167435	8	6
11067556	32	20	5578538	12	10	8167436	29	7
11067561	13	5	56-1225	20	6	8167445	8	23
11067563	28 29	3 3	586088	30 31	7 15	8167452	8	5
11067572	16	5	589919	29	8	8167455	32	14
11067574	25	8	5952134	30	9	8167494	16 17	13 12
12-198	19	8	69-919	20	5	8167495	6	9
13060166	18 19	7 5	69-920	20	3	8167497	5	6
13060167	17 18	15 6	7632546	24	4	8167501	4	11
13060168	18	2	7632547	24	3	8167506	2	3
13060170	17	8	7632548	24	1	8167527	16	6
16-1710	21	4	7632550	24	5	8167585	12	12
			8020622	23	10	8167617	2	18
			8022002	15	23	8167618	2	5

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Official:

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